

HOW TO IMPROVE YOUR HOME

by

Landscaping

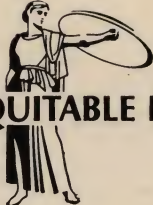


**LAWNS
GARDENS
OUTDOOR
LIVING AREAS**



P R E S E N T E D
to

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The **EQUITABLE** Life Assurance Society of the United States
NEW YORK, N. Y.





How to

Improve Your Home by

LANDSCAPING


by Barbara Baer

Illustrated by Myrtle Baer

L A W N S

G A R D E N S

OUTDOOR
LIVING
AREAS



Introduction

THE DESIRE for healthful, relaxed and informal living is resulting in a growing awareness of the importance of landscaping to a home. Your plans for home modernizing therefore, should not be confined within the walls of your home, but should extend to include lawns, gardens and outdoor living areas.

Landscaping, if properly planned, properly executed and properly financed will add to the comfort, improve the appearance and increase the value of your home. Therefore, this book, "HOW TO IMPROVE YOUR HOME BY LANDSCAPING," has been prepared as a service to home owners who desire to make the exterior of their homes as lovely and as comfortable as the interiors.

You will find information in this book about the "ASSURED HOME OWNERSHIP" Plan. This Plan, which THE EQUITABLE SOCIETY has developed through its many years of home-financing experience, is in our opinion, not only sound, economical and beneficial but constitutes a major contribution to home ownership.

The "ASSURED HOME OWNERSHIP" Plan helps you, if you qualify, to finance the purchase or the modernization of your home. At the same time it provides your family with full protection should you not live to com-

plete your mortgage payments. In addition, from the second year onward the constantly increasing cash value of the insurance feature provides a fund which may be borrowed against to help meet monthly payments when temporary financial emergencies threaten the home, or if not used, may be withdrawn in cash when the loan is paid. This Plan, which enables you to acquire your home and to retain its ownership accordingly deserves the serious consideration of every home owner, actual or prospective. No wonder that over the past 50 years more than 400 thousand home owners have availed themselves of the benefits of this PLAN.

Through this outstanding home-financing Plan you may obtain funds for the purchase of a new home or the improvement or modernization of an existing one. Moreover, it allows you, depending upon the period selected, from 10 to 30 years in which to re-pay the financing needed. Even if you already own your home, you still may qualify for the advantages of the "ASSURED HOME OWNERSHIP" Plan.

A representative of THE EQUITABLE SOCIETY will be pleased to discuss the benefits and terms of this Plan with you.

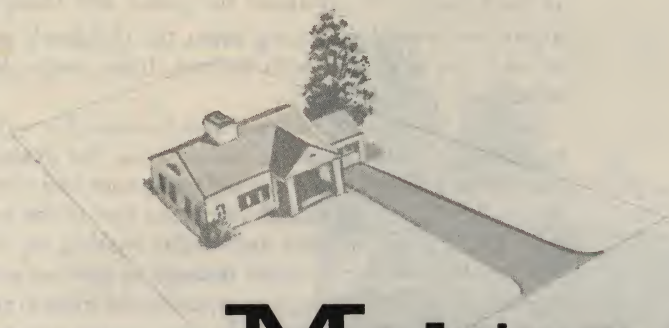
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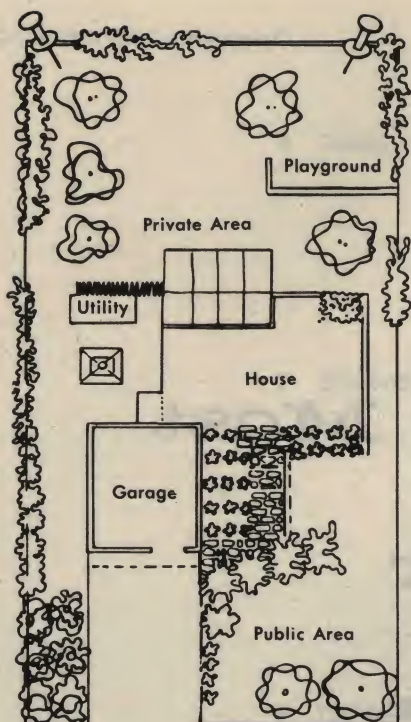
Making the Most of Your Grounds

WHEN you buy a new house or decide to improve your old one, you are, of course, concerned with every foot of ground that goes with it, for modern living and modern gardening can make every inch of your property usable and desirable. New methods of soil improvement, grading, fencing and terracing make even sloping hilly lots, hitherto undesirable, now attractive and choice. Modern chemistry has brought new nutrients to the soil and has provided weapons against the traditional enemies of the garden: disease and insects. Hardier bulbs and seeds make gardens more successful as well as wonderfully vivid. Fabulous hybrids have lengthened the list of flowering trees and shrubs, creating specimens for every color and design scheme, every type of house and garden. New gardening equipment and materials speed the time-consuming garden tasks. New ways of living bring us into the outdoors, and barbecue meals and comfortable lawn furnishings make a small suburban back yard as luxuriously enjoyable as was previously possible only on a large estate.

Architecturally, today's house is much more a part of the outdoors than was yesterday's. Large picture windows, glass walls, glassed-in sunporches and terraces all combine to make the garden a part of the house. Consequently, the view becomes that much more important. A beautiful garden, a luxuriant turf and healthy blossoming trees all add as much to the interior of your home as your draperies or wallpaper. The effort and time you spend on your lawns and gardens will repay you in every way, indoors as well as out.

When you plan your grounds you will be governed by many of the principles you employ in decorating your home. Proportion, texture, color, line, harmony, function — these are terms that apply to landscaping as well as decorating. And if you have large grounds you will benefit from careful planning just as much as does the owner of a third of an acre.

Garden books are filled with formal plans for perfect gardens and grounds, but you will want to consider not the perfect garden in itself, but the one plan that will



Plan your improvements on paper first.

be perfect for your particular family. Analyze your family, its needs and habits; then design your grounds to best satisfy its prejudices, desires and demands.

The thing to do is hold a family council and talk over what you want to do. Of course, you will be governed by questions of cost and available space. Draw a plan of your property in fairly large scale, about $\frac{1}{4}$ inch to the foot. Now make a list of the things the family wants, such as a barbecue, tool house, drying yard, rock garden, fences, playhouse, badminton court, better lounging facilities.

Unless you are fortunate and have spacious grounds, you probably won't be able to work everything into your program — but with planning, you can do things gradually. You can plan your garden so that it never looks bare and yet is always roomy enough for the additions you intend to make in the future. And some projects will serve more than one function. For example, if you need a driveway and have young children, a black-top that can be used for hopscotch and bicycle riding will serve a double purpose, and easily justify its cost. Or a fence that cuts off an unpleasant view can also act as a windbreak and a handsome background for a lounging area. A retaining wall can double as a rock garden when planted with hardy dwarf shrubs and other rock-garden species.

Generally, most grounds are divided in three ways: *the public area*, the area that can be seen from the street; *the service area*, which includes garage and parking facilities, delivery facilities, clothes-drying equip-

ment, outside storage space and garbage disposal; and *the private area*, located in the rear of the house. Here is your back yard, available for games and lounging; a terrace or outdoor dining area; the children's playground and a garden with flowers, fruits, vegetables, walks and, perhaps, pool.

In each division there are things to strive for — and to avoid. In your front, or public area, for example, plan for a minimum of care. Select flowers and shrubs that will help you present an attractive face to the passerby at all times without any undue fussing on your part, so that when you can't manage to give as much time as you would like to your grounds, the front of your house will still be presentable. In your service area, plan for off-street parking; for deliveries that can be made without intrusion on the privacy of your lawn or terrace; for a drying yard that won't be seen from the street. For your private area, use the largest part of your plot; take advantage of existing trees and the shade afforded by your house and garage for lounging spots. Have seats in pleasant corners and screen off the children's play areas from the rest of the garden.

Needless to say, landscaping can be a never-ending adventure, a pastime that is as gratifying as it is beautifying, for the creation and care of flowers and trees, vines and shrubs, lawns and fences, brings luxury to the home, happiness to the family, and pleasure to all who behold the beauty of a "well-dressed" house.



To make narrow lot seem larger have lawn sweep out in a curve from the terrace.



Here is how a rugged piece of land can be developed attractively. The walk is made of brick to match the veneer of the house. When it reaches the steps it turns to stone to correspond with the retaining wall. Note how it is illuminated for safety at night.



A driveway bordered with flowers and shrubs, which complement the foundation planting, softens the natural background of this Spanish-type house in California.

2

Designing and Planning



FOR the most attractive and beneficial use of your grounds, you will want to include in your plans most of the features outlined in this chapter. Such essentials as a good lawn, thriving shade trees and paths and walks are usually taken for granted, yet often they are the most difficult to acquire, and may absorb a major part of your initial effort and budget. On the other hand, such a project as an outdoor living room, with its cooking and entertaining facilities, may have been overlooked in the past because it sounded too difficult to achieve. And yet such seemingly difficult features can add tremendously to your enjoyment and may, depending on what type you choose, be obtained with relatively little effort and cost!

Trees—For Shade and Beauty

Perhaps if any one feature can be singled out as basic to successful landscaping, it is the presence of fine trees. The unfortunate trend of developmental builders in cutting down trees in a wholesale manner, and the growing use of treeless fields for new building, has focused attention on the property owner who must begin with nothing when it comes to trees. Architects agree that a single shade tree, even of medium height, can make a very great difference in the comfort and livability of a house. It is amazing to discover what a tree can do for a house. A tree in leaf, for example, can reduce noises from the street. A tree tall enough to throw shade over the roof can materially reduce heat in summer. Trees can lessen the amount of dust around a house and provide protection from winds.

But there are also the many esthetic considerations. There are the things that shrubs and trees can do to improve the looks of your house itself. Properly situated, they can sharply alter the lines of your house. They can give a small house dignity; appear to reduce the ungainly height of a tall house; soften the lines of a new house and provide welcome contrasts in color and texture. Plan from the beginning to plant new trees that will harmonize with the colors of your house and best suit its architectural style.

When you are planning for new trees bear in mind the annual cycle of the tree; how long it holds its leaves, what its colors are during blossoming, when it is in fruit or full berry, and in fall, when its leaves change color. Plan to contrast flowering deciduous trees with evergreens; slender trees that owe much of their virtue to the color and line of their trunks and branches — the white clump birch, for example — with trees that are chiefly beautiful in mass, such as the weeping willow or the new purple fringe. (The latter is a tree that looks like a cloud of smoke when in bloom.)

If you are planning vistas for large grounds — and this is a useful rule even for smaller spaces — have in your design a foreground, a middle ground and a background. A background is most naturally composed of large trees. Here can be used many of the species of rough and irregular growth which would not look too well at close range. These trees will give a gentle texture to what would otherwise be an unbroken and monotonous background surface. In the foreground use flowering shrubs. Then, for the middle ground, use the many medium-sized trees and large shrubs which can be singled out for colorful foliage or blossoming.

This advice applies mainly to new planting. If you have just bought your property and are thinking of taking out a tree that blocks a view, or is otherwise objectionable, wait at least a year. Live with the tree, observe it in its various colors through the seasons and carefully consider its advantages as well as its disadvantages. Remember that a tree once destroyed is difficult to replace.

Aside from the ornamental qualities of trees, the two most important ways in which they can improve your property are by screening and giving shade. Perhaps you are overlooking a chance to use one of the shade trees on your grounds for a pleasant gathering spot. Put down some paving, place a few deck chairs there, and come summer everyone will gravitate to this spot. Use the shade of your trees for the children's area, and if you don't have a tree on the south, southeast or southwest side of your house, plant one or two there. If you are using trees to screen off an unpleasant view, use evergreens which will do the job the year round.

In deciding what trees you wish to acquire, which you wish to save, take into account their ability to thrive in your climate and soil conditions. Also, find out their rate of growth. If you have a new house you will want rapid-growing trees and shrubs that bloom within two to three years after transplanting. Sometimes, however, as in foundation planting, a slower rate of growth is advantageous; it means the tree will not be bothered by crowding. The shape, color of blossoms and foliage, height and spread, habits — you will want to avoid trees that mess up a lawn or terrace with seed droppings or insects — are other important factors. Think not only of the old favorites but visit several tree nurseries in your locale to see if any have trees not common in your neighborhood but which can be grown there. And do not discount the value of fruit and nut trees as ornamental trees, for many are lovely, particularly in the spring.

Tree and flower planting define vistas of expansive and attractive lawn.



The straight, simple lines of this suburban home are relieved by evergreens of different heights. Note how the flowering shrubs are trimmed to harmonize with the prevailing motif.

Have a Good Lawn

A good lawn is a basic requirement for attractive and enjoyable grounds. When you plant a tree you do so realizing that you are planting for years to come, even for generations. Few realize, however, that lawns must be planted in the same spirit. The lawns of many famous estates were planted over a hundred years ago, and this type of turf, luxuriously verdant, is always an inspiration. Today's lawn builder is fortunate. The battle against weeds and poor soils can be won, thanks to the introduction of new chemicals. And modern spreaders, mowers and other tools can help you develop a parklike lawn.

But obtaining a fine lawn is sometimes a much more complicated matter than scattering seed or plucking weeds. You will want to have your soil analyzed, and then, perhaps, change its make-up. Perhaps you will need to drain or grade. Before you select your seed formula, take into account the use to which your lawn will be put. Will it be a general-purpose area or will it be a showplace in your garden where you will strive for a



putting-green lawn? Except for problem lots in suburban areas, where the living space outside is small and may have to be paved, the lawn will be the broad canvas on which you paint your picture with flowers, shrubs, trees and walks. Keep it larger than any other area, certainly two or three times the width of your borders and beds.

Flowers

You will want flowers for cutting and flowers for contributing gaiety and charm to your grounds. The aim of the successful gardener is to have a succession of flowers from early spring to late fall. You can plan from the beginning to have perennials which bloom at different seasons, (for example, iris, which has the peak of its bloom just as the peony season begins). Know accurately when the perennials bloom and then plan to fill in the gaps left by their passing with prolific and quick-growing annuals. You can plan to have a potting bed, perhaps in your vegetable garden or in a sheltered spot behind your tool house or garage, where you can grow extra annuals as well as those perennials which do not mind being transplanted. Then when the tulip season passes, for example, you can fill in with another tall bulb, a summer-flowering one, such as, perhaps, the canna lily.

Your plan should be made on paper, with the shape of the bed or border sketched in, and the position of the plants indicated. Perhaps the most common and feasible design for the average 60 x 100-foot lot, or even the half-acre lot, is the border running the length and rear wall of the back yard. This can be a mixed border of summer-flowering bulbs, perennials and annuals, backed by shrubs. Other designs can be planned for the center of the lawn, for the foundation planting, for the pathways to the house and for the sides of the house. Semi-formal or formal gardens can have borders or beds laid out alongside of and divided by walks.

In planning your border, provide for tall screening plants that will form a background for the shorter plants. The screening plants may need staking but they should be sturdy. If you have a wide border, over 6 feet, you will need a narrow path in front of the screening plants for cultivating and tending. The center border plants are of medium height, and can be chosen for vivid color. If you are planning a wide border, relatively tall plants such as iris go here. In the foreground is your edging, composed of such neat and plainly visible flowers as: clipped green perennials, or low-growing petunia, ageratum, pansies, dwarf marigolds or sweet alyssum.

It is wise in planning to have beds or borders that are visible from your windows and close to your terraces and gathering places outdoors.

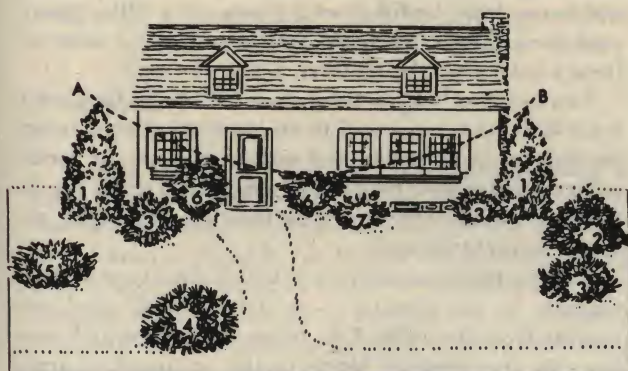
Foundation Planting

The special planting set close to the house is called foundation planting and has great importance since it improves and enhances the proportions of your house as well as relates the house to the grounds. Evergreens are widely used for foundation planting not only because they can thrive in the shade of the house, but because of their year-round good looks.

If you have not used evergreens elsewhere, though, it is a mistake to suddenly use them at the foundation.



Foundation planting does much to enhance stone wall of this modern house.



Foundation planting with evergreens. Line A-B shows proper curve with high points at corners.

Plant list:

1. Cannart Red Cedar
2. Arbor Vitae
3. Savin Juniper

4. Mugho Pine

5. Andorra Juniper
6. Laurel
7. Pfitzer Juniper

The contrast will be too sharp; the evergreens are apt to look forbidding. There remains a wide choice of flowering shrubs, dwarf fruit trees, roses and cushion chrysanthemums that will lend color to your foundation design in spring, summer and fall. Japanese redleaf barberry, floribunda roses, flowering quince and forsythia are among the bushes and plants that can be used.

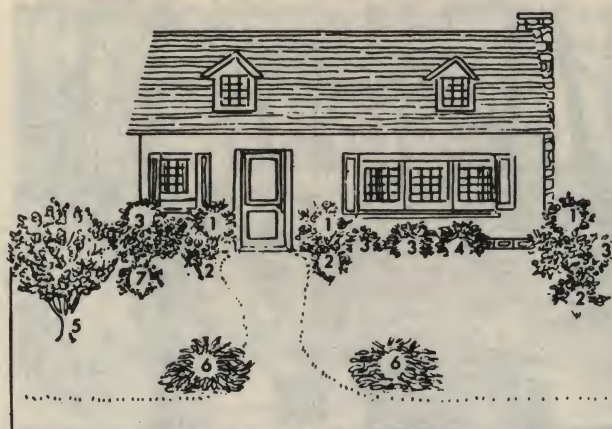
While it is tempting to try one of each of the nursery's evergreen specimens in your foundation planting, this should, of course, be avoided. On the other hand, contrast tall and low-growing types; use stiff-needed pines with feathery juniper with broadleafed laurel and rhododendron.

In your preliminary planning, draw to scale the relationship between your house elevation and the foundation shrubs and trees as they will look at mature height. Perhaps some of those you've selected will be too tall for your house, obscuring your windows and making the house gloomy inside. In that case, you don't want them.

In general, because your entrance is the most important feature of your house facade, you start your planning with it in mind, using shrubs that direct the eye toward the door. The planting in front of the house is usually bowl-shaped in its overall outline. This gives the impression of a broad base to the house. In some places, let the wall show to the foundation. Put the tallest shrubbery at the corners of your house.

Outdoor Living Room

Today, when building costs make large houses prohibitive, one way to extend your house is to use your



Same house with foundation planting of flowering shrubs instead of evergreens.

Plant list:

1. Floribunda roses, red
2. Floribunda roses, yellow
3. Golden Syringa

4. Spirea Thunbergii

5. Dolgo Crabapple
6. Redleaf Japanese Barberry
7. Rose panicle

outdoor space to full advantage. And many contemporary houses make many a room look larger by *visually* extending it into the lawn or garden. Tricks such as glass walls, using the same wall material inside as for a continuing wall on the terrace and using the same material for the ceiling inside as on the extended terrace eaves, help to do this. Your living room or dining room and even your bedroom or your children's bedrooms can flow right outdoors on to "floating" decks of wood, bricked terraces or sodded, lattice-roofed loggias.

However you do it, with the aid of vine, fences, shrubbery, shade trees and flowers you can make your terrace a delightful place for entertaining, sun-bathing and relaxing. With a barbecue another dimension is added, for with your own fireplace or barbecue any terrace, lawn or garden spot can offer the blithe enchantments of dining under sun and stars.

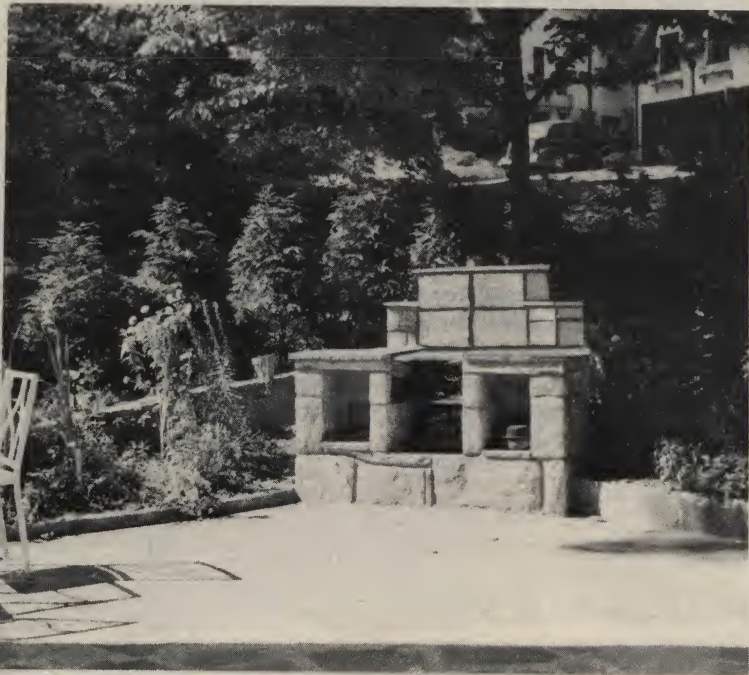
In planning your terrace, consider installing an electric outlet for lighting, portable radio, electric spit for your barbecue, etc. Use vines for a lattice roof (grape vines, for instance, leaf out late when shade is wanted and drop their leaves early at the beginning of cool weather, giving delicious fruit as bonus). Choose a rapid-growing vine like grape, hyacinth or the gourd vine.

Relate your terrace to the rest of your grounds with flowers and vines grown in pots, baskets and tubs. If the wall of the house next to your terrace seems bare or the profile of your cement or asphalt paving seems too sharp in contrast against the grass, soften the line with pots of plants. Have dwarf trees on your terrace and blossoming shrubs in the terrace-retaining walls. Create interest with changes of level; build flower beds around trees, steps and walls.



A barbecue that has working space, built-in ovens and a wide grill, makes outdoor dining enjoyable even for the cook. Note the brackets for a spit and the smoke vent. The area in front is paved for safety and appearance. The rustic table and benches can be moved into the sun or shade as weather or wish decree.

Barbecues that are located at a distance from the house should be designed, as this one is, to include protected compartments for tinder, fuel storage, and possibly even some barbecuing utensils. The more self-sufficient an outdoor area is the more pleasure it can provide.



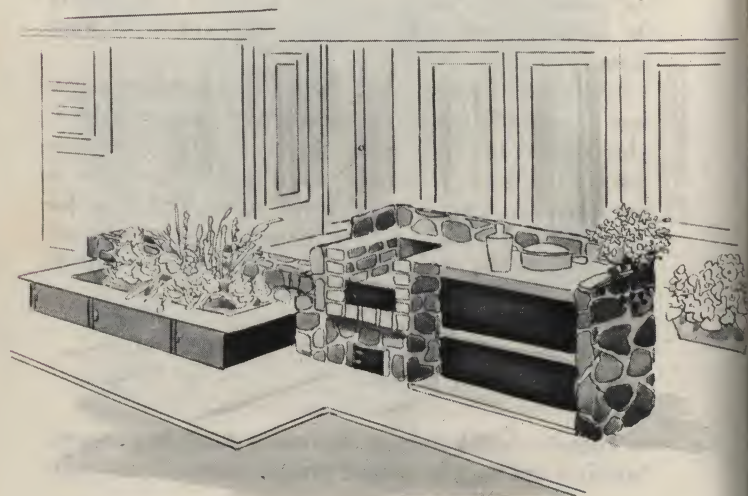
For a terrace where everybody in the family assembles, have play space for young children, a sand box which can later be filled with plants, or a little square pool for sailing small boats (this can create a sense of luxury long after the children are grown up).

You need not rely on trees alone for shade. Construct a self-bracing terrace roof in an egg-crate design, using the side of your house and wood, masonry or metal pillars. Corrugated plastic and reinforced glass are in frequent use nowadays because they are watertight, yet let the sunlight through.

Coming into more and more architectural use — particularly in hot climates — is the “parasol” roof, extending from the walls of the house some 4 feet and even more to give pleasant shade to the surrounding area. Since glare reflected on bare grounds is a source of heat, a carpet of shaded grass under the parasol roof helps to keep the house cool.

Often an outdoor living space gets twice the use if it is made more accessible. A window in a living room can be converted to a French door, making it more natural to step right out on the terrace instead of walking around the house to reach it. A terrace that is an extension of a narrow porch — a paved area adjoining the porch — will make the porch that much more livable. A flagstone path — or any other path — leading to a terrace away from the house will increase the usefulness of the terrace. Some kind of hard flooring is of prime importance, whether it is of brick, crushed rock, cement, wood block, or flagstone, for it makes it easier to move the furniture around and eliminates worries over tramped-on turf. In fact, it is a good idea to have a terrace in a spot where you are having trouble with the lawn.

Outdoor living space is successful, too, when it is sheltered — away from street noises and traffic, from the neighbors, from the wind. An unused corner of the house or the garage, with the aid of fences and walls, can turn into a sun trap that will stretch out the season for outdoor living both in spring and fall. A louvered



Long terrace barbecue is good serving counter. Storage unit is also flower bed.

board fence, a basket-weave fence, asbestos laid in cement to form a modern wall, or the traditional brick wall, all are pleasant backgrounds for planting and good screens against wind and other disturbing elements.

Play Area

A play area that will keep your young children in their own back yard, where you can keep an occasional eye on them, need not be an unattractive one. Include a paved area, if possible, for bicycle riding, skating, hopscotch, etc. The sandbox might be a sunken one, flush with the lawn, or it might be a raised box, an extension of a wall or fence that can be planted later. Such imaginative ideas as hollowing out and painting an old stump to be used for a puppet theatre; getting hold of an unseaworthy rowboat which can be gaily decorated for playing Robinson Crusoe; or putting up a ladder for climbing the side of the tool shed or a garden wall, so that climbing in other areas may be out-of-bounds, are ideas that will keep the "gang" at your house.

Drying Yard and Service Area

Plan to have your drying yard and service area out of sight yet close enough to the house so that you are not inconvenienced. Screen these areas with shrubbery or fences. The service area should include propagating beds, coldframes, a tool shed or storage locker and your compost pit if you have one. Hotbeds and coldframes

should be located in a spot where they will be protected from north and northwest winds. Be careful not to place your coldframe in a damp place unless you have first drained it thoroughly with drain tile.

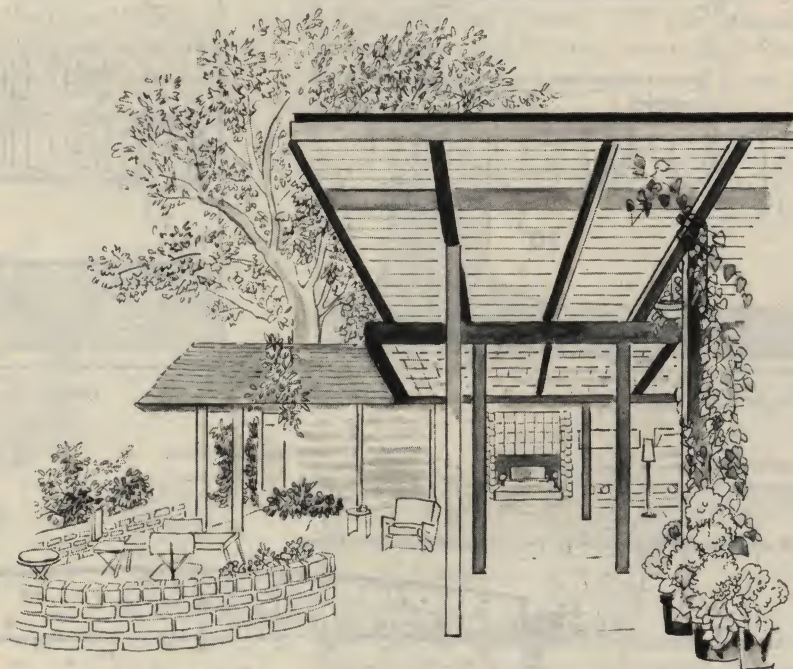
A vegetable garden can be a source of great enjoyment. It should be out of sight in a corner, or screened with shrubbery, because of the seasons when there is nothing growing in it. But it can be a decorative addition to the garden, particularly if there are grass walks and attractive flowers around it.

Paths and Walks

Planning your driveway and walks so that they take up a minimum amount of room and yet provide a strong enough surface for the traffic they will bear, calls for careful thinking. The well-designed house and grounds have the garage close to the house and near to the street. The garage situated way in back of the house is a hang-over from horse-and-buggy days when the stable had to be remote from the house. Today when the majority of home owners have cars, space can be saved by using a garage path that also serves as the house path, or feeds into a short house walk. But though the driveway can be a short one, plan for off-street parking — have your driveway at least 20 feet from the street.

Most home driveways break down under heavy service trucks and traffic because the soil under the driveway is wet. Adequate drainage for wet spots, therefore, is a necessity. Good driveway materials are stable, and

Attractive terrace with louvered and shed roof, fireplace, low brick wall.

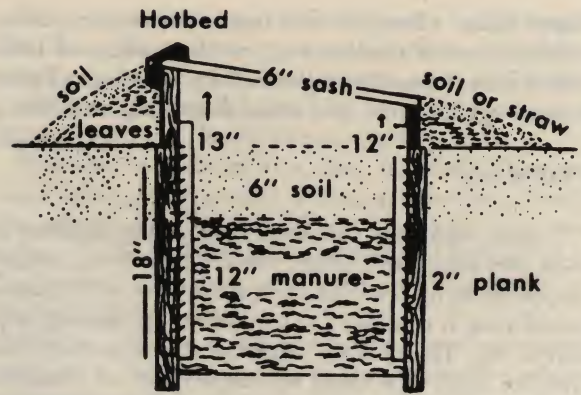


should not get washed away by storms or shoveled up with snow. If, however, the driveway must be long and does form an important feature of your landscaping, a stable material may have to be passed up in favor of one like gravel or crushed rock, which will blend better with the surroundings.

Well-designed walks with neat edgings, steps which seem to belong where they are placed, and intriguing little paths that lead you deeper into the garden, can do much to improve your grounds. You can scarcely lay too much emphasis on your selection of material. Concrete paths and steps, for example, while often just the right thing, can form too sharp a contrast with the surrounding turf and planting. Informal walks of wood butts (perhaps slices of telephone poles), flagstones, or tanbark may be much more suitable. Colonial houses are traditionally set off by brick; modern houses favor wood; small houses seem to call for flags.

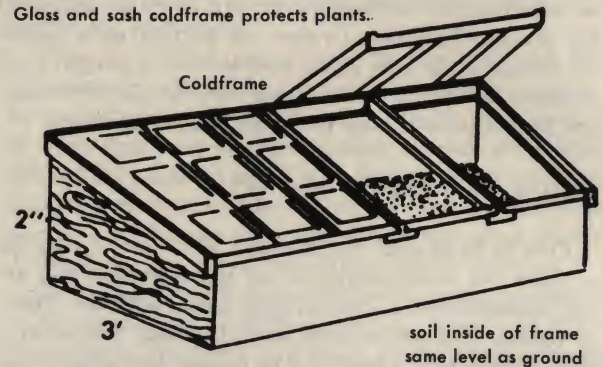
Garden Pools and Fountains

Water, in almost any form, enriches a garden and delights the senses. Modern houses are bringing garden pools right into the patios and terraces. Ideal is water in movement, a splashing fountain or a narrow little brook running through the grounds and between flowers over clear stones. But even a spigot with a wooden bucket below it or a tub to fill with water and use for

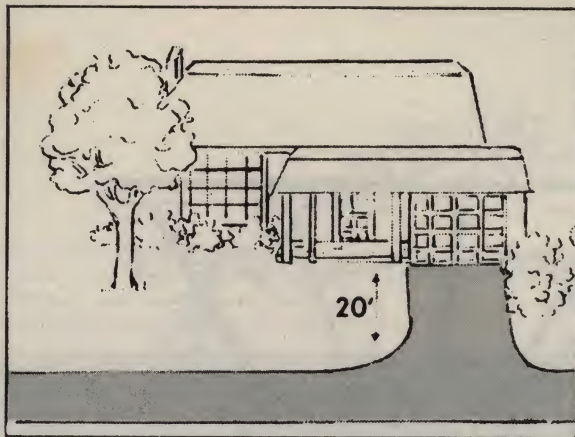


Cross section showing simple hotbed.

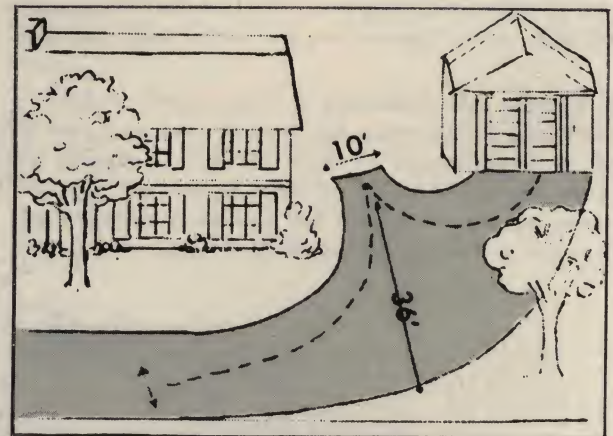
Glass and sash coldframe protects plants.



soil inside of frame same level as ground

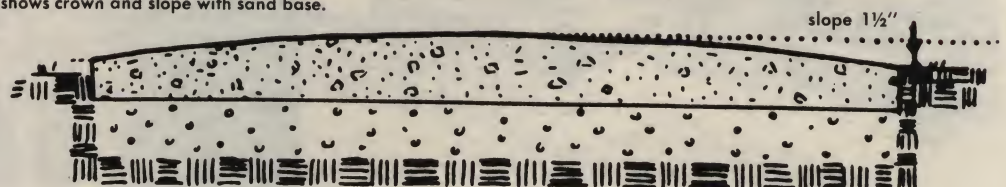


When garage is at front, allow for off-street parking.



Garage path arrangement permitting Y turn.

Cross section of concrete driveway shows crown and slope with sand base.





A wide cemented brick walk makes this barbecue spot accessible and enjoyable even when the ground has been softened by rains, while a yellow lamp that does not attract insects prolongs its hours of usefulness.

plunging cut flowers can bring a verdant, cool feeling into the garden. Using the sound of running water and the evaporative qualities of a fountain or pool to bring relief from the heat is a trick we have learned from the gardens of Japan, Spain and other hot climates.

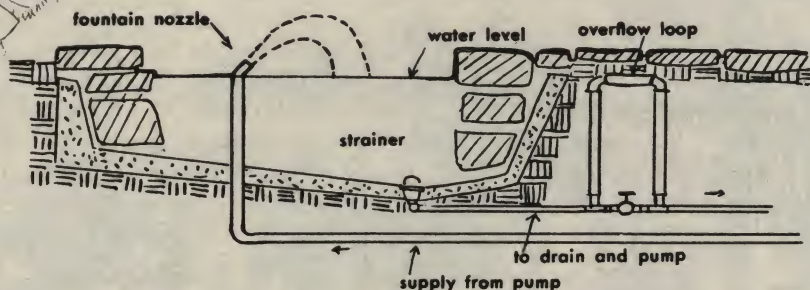
A pool in the garden highlights the good features of your setting, and it should always be placed so that its surface will be seen from several points, or at least from the most frequented spot in the garden.

The shape and materials of the coping around the pool have much to do with its appropriateness in the setting. Flagstone, brick and tile are all good depending on the degree of formality of the pool. Sometimes the best solution is no visible coping.

Fountains can be made with only a small supply of flowing water, and the same water can be used over and over if you install a small motor and pump for an electric pumping system.



Informal garden pool and fountain with plan of fountain operation.

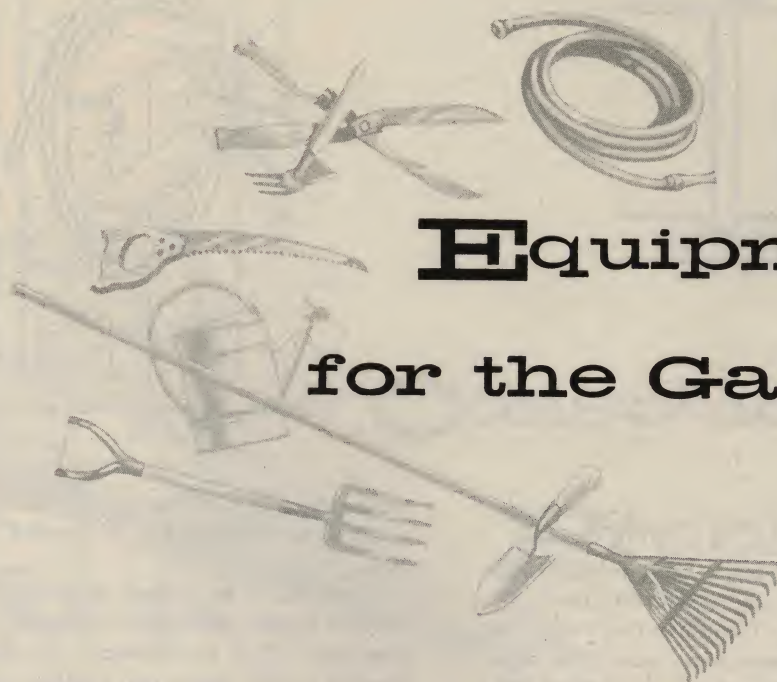




Widely spaced tropical trees intermingled with sculptured evergreens soften the boxlike appearance of this rectangular ranch-type house. The balanced landscaping gives a feeling of spaciousness to a conventionally sized plot.



Where space is ample and climate favorable, there is nothing like a garden pool to make nature a part of everyday living. Note how the sculptured rock between pool and house relieves the relative flatness of the drive and terrain.



Equipment for the Gardener

WHETHER your grounds are large or small, the right tools and equipment can speed routine tasks and help you to successful gardening. Taking good care of your tools and keeping them in one place will pay dividends in time and effort. If you do not have a tool house or room where you can keep all your tools, and the insecticides, fertilizers, stakes, wire, paint and other equipment a well-prepared gardener should have, arrange to make space in your garage, or build a locker in a corner of your carport or breezeway. A tool shed that is like a giant kitchen cabinet can be added lean-to fashion to your garage.

There are basic tools everybody needs. These include a metal shank spade or, better, the easier-to-handle and extremely useful spading fork, and the small and handy planting shovel. Then, to carry in a handbox or basket, so you will have them when you need them, your steel shank hand trowel, hand fork and hand cultivator. An iron or bow rake is fundamental, of course, and so is the bamboo or broom rake. A weed spud for hand removal of weeds is a favorite instrument, and a good pair of shears or hand pruner is indispensable. The other musts are your hose, hand mower, roller, watering can and wheelbarrow.

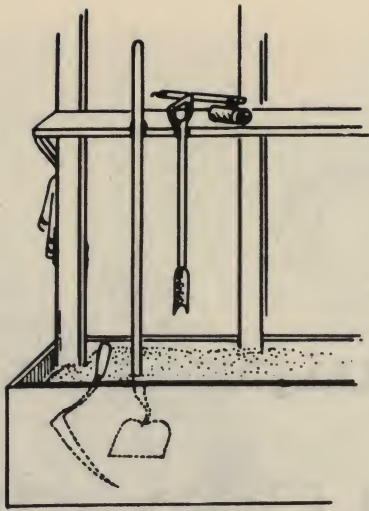
Not as vital but very useful are an edging sickle which utilizes old razor blades; lawn edger and grass-edging shears; long-handled or pole-pruning shears, hedge shears and lopping shears. Also, a good sprinkler; a

deep cultivator such as the potato hoe; a dibble for seedlings; a stapling gun; a pruning saw and soil sieves. For your hose, a reel is good to have, and a canvas hose and a wand for soaking the soil without getting water on the leaves are valuable attachments.

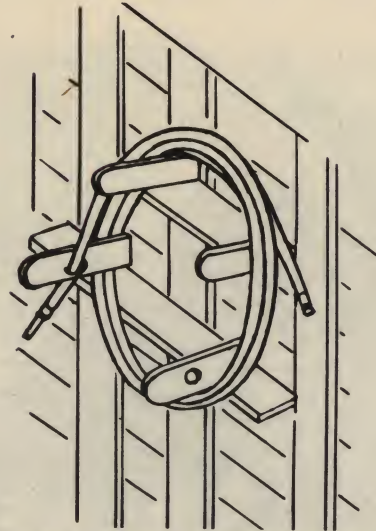
The following are luxuries, perhaps, but they will help you do a professional job: a pressure sprayer, root feeder, wheel hoe and cultivator, spreader, soil-testing kit, garden tractor and garden lawn sweeper, or mechanical garden mower with mulching attachment and power rotary tiller, and, finally, an electric hotbed.

The mechanical, or power, machines are bringing about changes in gardening. The mower-mulcher, for example, suggests a new way to gather fall leaves and use them for mulching. You run it over the lawn in the usual way. The leaves are cut into small fragments and deposited beneath or to one side of the machine, where they sift down among the grass leaves and form a light, protective mulch layer. This decomposes after a while and adds to the organic fertility of the lawn.

Other equipment to have on hand that will keep you from running to the store just when you want to be out working on the grounds, includes: plant ties, stakes, labels; burlap or canvas, chicken wire, garden line; a yardstick and a measuring cup and spoons; creosote and other needed paints and a paint-brush; sand, peat moss, lime, plant foods and insecticides and other chemicals and, finally, pots and flats.



Oiled sand in box for winter tool storage.



Garden hose rack built on garage studding.

Storage Tips

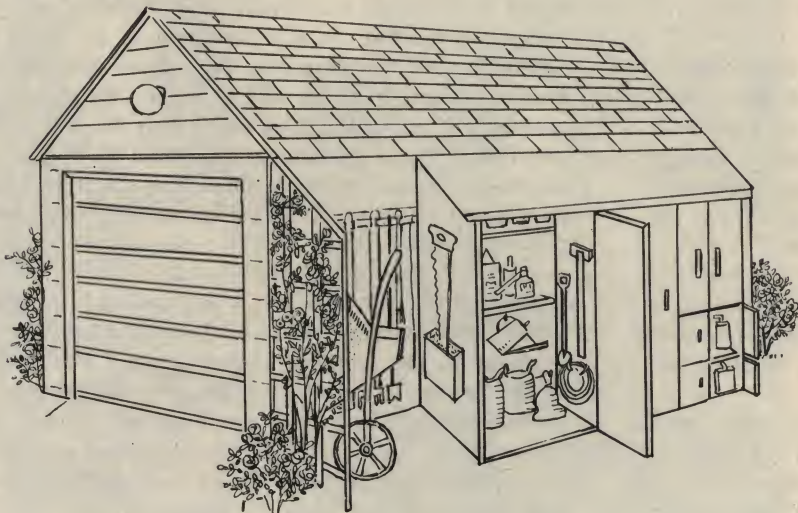
Storage of garden tools in a precise fashion helps keep them in good working order, and saves you time in locating them. A tool house 3 x 6 feet can take care of a great deal of equipment. Because tools are usually kept in unlighted places, and often not wiped off after use, rust is the major enemy. One way to safeguard against rust is to keep vulnerable tools away from air when not in use, storing them in a box of sand saturated with crankcase oil. Avoid having so much oil that it makes the tools greasy and hard to handle, and do not put the working parts of the tools, such as the pivot part of shears, in the sand.

The garden hose is often badly taken care of. Besides using a reel, you can preserve the life of your hose by not letting it kink while water is running through it. Don't leave it in the hot summer sun (especially if it is a plastic hose). Coil it loosely on your reel or rack made

on the exposed studding of your garage. An improvised reel can be fashioned from wooden TV cable or wire reels.

Tools should be cleaned immediately after use, while the soil is still moist. Use emery cloth, a wire brush or steel wool. Rub in crankcase oil. Keep your wooden handles sanded down and preserve the wood with linseed oil. Sharpen hoes with an 8-inch mill file, stroking toward the cutting edge, but don't sharpen digging tools too keenly for when they are thin they nick easily. Apply your file to only one side of your sickle, with the bottom edge kept flat.

Power sprayers should be washed with clean water and washing soda after each using, and the nozzle should be examined to get out the grit particles. Clean the sprayer's rubber hose with vinegar and the shower and the nozzle with kerosene. Oil the leather plunger washer after using to prevent the leather from drying out.



Garden storage space provided by shed which is built on to garage.



Construction Problems

NOT every house is blessed by ideal surroundings, with promise of easy creation of outdoor recreation and entertainment areas, a good lawn and a good garden. Often it is necessary to undertake a certain amount of construction to insure the quality and life of the gardens you wish to plant and the terraces you wish to build.

The basic construction problem of any landscaping is the grading of the soil. In essence, grading means building a slope or slopes into your property. Such slopes assure the proper drainage of water, beautify the aspect of the house and make for easier maintenance. Whether you intend a lawn, a garden or a terrace, grading comes first.

The best time to consider grading is when you undertake construction of your house. It is a simple matter to ask for a few additional inches between the entrance level and the ground level. Yet these few inches will insure the easy development of a grade away from the house wall to improve the appearance of your surroundings and obtain a drier basement.

Rough Grading and Drainage

Rough grading is the first step in lawn, garden or terrace construction. The extent of the grading will depend upon the condition of the ground, the desired ground levels and the attention that must be given to extreme slopes. It is important to adhere as closely as possible to natural contours in grading, since this cuts expense considerably.

The first step in grading is to strip and separate topsoil from the areas in which the level is to be changed. Even if the grading is for construction of a stone or concrete terrace, saving the topsoil is important. In this case, spreading the topsoil in areas which are thin, or using it in the flower garden, can save you a good deal of money.

Once the topsoil is stripped, the subsoil can be graded to the contours desired, leaving sufficient space for adding the topsoil you have already removed. Remember to plan on a slope. For a lawn, a gentle slope is best,

most experts recommending a minimum of 6 inches in slope for every 100 feet in lawn. This same measurement can be effectively applied to stone terraces as well, to prevent the development of pools of water in rainy weather.

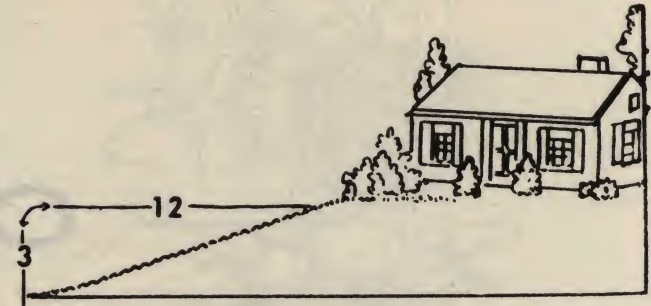
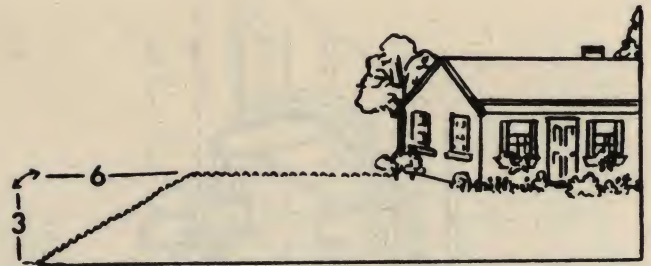
Subsoil Drainage for Lawns and Gardens

Where the subsoil is thick or clayey, it is essential for the well-being of the lawn that subsoil drainage be installed. Even in sandy soil, it is a good idea to use subsoil drainage, since it brings about the quick and even distribution of moisture throughout the lawn or garden area. The first problem in drainage is to find an area to receive the flow. If you are on low ground, on to which water from higher areas flows, this run-off area is extremely important. On high ground, an underground pipe leading out over a slope will be enough.

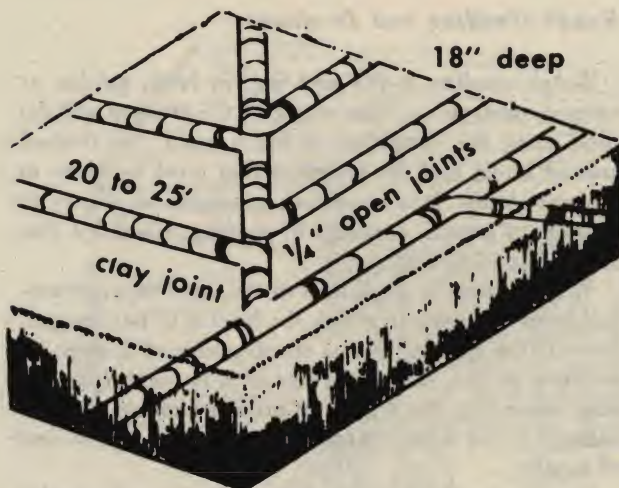
If you are building your own drainage run-off, perhaps the easiest is the dry well. The dry well is nothing more than a pit, 4 to 6 feet in depth and diameter, and filled with rubble and rock. Your dry well should be marked after it is covered, so that you know where it is if water starts to back up on your lawn.

Subsoil drainage is best accomplished by the use of tile lines. The semi-circular lines of tile are laid in the topsoil, about $1\frac{1}{2}$ to 2 feet deep, in lines from 2 to 4 feet apart. The tile lines should be covered with about $\frac{1}{2}$ foot of cinder or crushed stone before the soil is replaced. The minimum effective grade for tile lines is 3 inches for every 100 feet in length.

When backfilling, be sure to put *all* the subsoil you have removed back in and tamp it down, if necessary. Any slight mound left after restoring topsoil will disappear after the first winter.



For best lawn care, slope at top is too sharp; center is good, as is easy grade with retaining wall, below.



A good lawn-drainage plan using tile.

Measuring Your Grading

It is very difficult, even for a professional, to measure grades by eye. It is doubly difficult for the amateur. Therefore, if you have a grade to level, use as a guide a piece of twine that is pulled tight between two sticks imbedded in the ground. For leveling, once you have done the rough work, use a long board as a straight edge along the ground to insure your accuracy.

Grading for Terraces

In leveling an area for a terrace, there is no need to insert subsoil drainage. Save the topsoil. For almost all terraces, it is a good idea to tamp the soil, and even to pour a quantity of gravel cinder or crushed rock as a base. Terraces require a level area as a rule, but the grade sloping away from the house should be maintained.

Patios need not be adjacent to the house. This picturesque outlying spot is transformed into a pleasurable outdoor rendezvous by garden furniture, shade umbrella and a barbecue built right into the stone retaining wall.



Terraces

Terraces present wonderful possibilities in the garden. They are outdoor living rooms during good weather and form a transition from the outdoors to the indoors throughout the year.

The terrace may be either at ground level, below ground level, or raised above it. The simplest type is ground level, which requires only the grading we have indicated. There is a wide choice of flooring materials to use. One may use cement, poured and leveled with a large board, but in maintaining the drainage grade or including shallow drainage paths, smooth turf may be used, in which case the preparation will be the same

as for other lawn areas and various other types of bases.

The use of flagstones is made simple by applying a load of sand or gravel to the subsoil and digging the flagstones into the sand or gravel. The niches between the stones can be dug out and filled with topsoil and grass or other cover planted between them. This gives a very pleasing effect.

Hollow clay building tiles can be split and laid as units in the terrace floor, their rough edges in the soil. Another good surfacing material is "exposed aggregate," which is free from glare because of its rough finish. For this type of surface, build a form of 2 x 4's. Pour the flooring in squares, one square at a time, and level with a straight board. The material used is a mixture

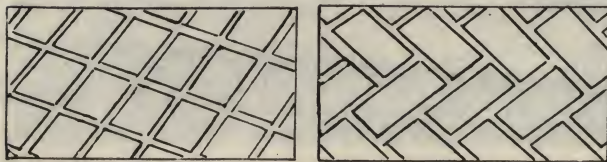


For areas of dry soil and scarce sun, use neat gravel edging and evergreen cover.

of cement, sharp sand and crushed rock or pebbles.

Redwood or cypress blocks may also be used for terrace floors and are very attractive, although somewhat less durable than stone or brick. You can buy the blocks cut to size and lay them directly in a bed of sand, which in turn has been laid on compacted gravel or cinder.

Unmortared brick, laid in a pattern, on 2 to 4 inches of well-tamped sand, with loose sand in the crevices for grass, makes a hardy and simple-to-construct terrace floor. The bricks may be laid flat or on end, and to keep them from spreading, drive an angle iron against the corners. Use a pattern that follows the lines of your terrace.



Four new patterns for brick paths.



The Sunken Terrace

A sunken terrace is one which is below ground level. It can be very attractive, and it does give a feeling of coolness on a humid day or a hot night. The sunken terrace requires a retaining wall to prevent soil from continually eroding into it, and also to maintain the topsoil of the surrounding garden. The subsoil must be dug to a depth of about 5 or 6 inches below the level you wish to attain with the terrace itself. The use of sand or gravel as a base is of importance. The top treatment can follow your own dictates.

The Raised Terrace

The raised terrace is generally not fully raised, but starts at the house level and is raised at its outer edge.



Flat lawn can be had at top of wall.

Again, a retaining wall is called for. The principle problem with the raised terrace is leveling. Once this is accomplished, and the retaining wall built, construction follows the same procedure as in any other case. Drainage is supplied either by a central drain, going into a tile line, or by underground piping through the retaining wall.

Retaining Walls

Beautifying your garden by the construction of a retaining wall, behind which is a lawn or expanse of flowers, is not a difficult task. But, like all garden problems, it requires a certain amount of effort and care. The retaining wall must be strong enough to hold back the pressure of a great weight of soil, and yet porous enough to allow drainage.

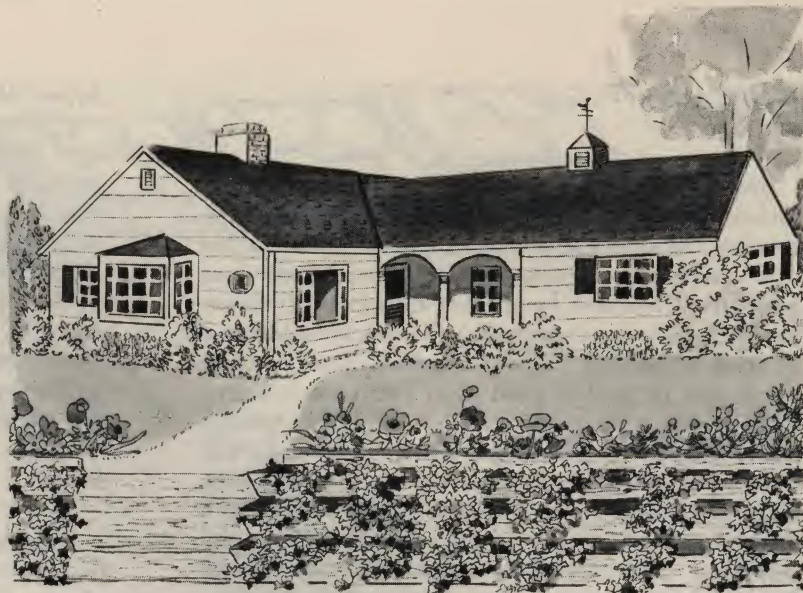
The most popular types of walls are built of stone, either dressed or rubble. In using stone for a retaining wall, there are two basic types of construction: *dry-wall*, which uses earth as a filler between the stones, and *mortar*, which uses cement as a bonding agent.

The base of any retaining wall must be sunk below the frost line. This is about 6 inches in the northern half of the United States. As a rule of thumb, for a flat wall (one without buttresses or projections), the width of the base should equal one-fourth the height of the wall. The wall can taper to a width of about one-fourth of the width of the base.

For buttressed walls, the base should be one-fourth as wide as the wall is to be high. This refers to the widest points, where buttressing is to be used. In the narrower areas, the base may be of slimmer proportions.

At intervals of about 24 inches, and about 6 inches from the lower ground level of the retaining wall, drainage pipes should be imbedded in the wall. In some walls,

New treatment for retaining wall; stepped wood boxes filled with ivy.



if the wall itself is porous enough, it is possible to eliminate these drains. But in any construction using mortar as a bonding agent, these drainage pipes are essential.

In dry-wall construction it is possible (although not advisable) to start at ground level, and not sink the wall below the frost line. The most inexpensive way of constructing a dry wall is to choose local stone, picking large ones for the main stones and smaller ones for the chinks. The largest stones should form the base of the wall with the smaller ones leading to the top. The side of the wall which faces out should be as level as possible, with obstructions and edges of outside stones facing inward. This not only gives the wall a better purchase on the soil it retains, but also insures a good appearance. Stones with round surfaces should be discarded since they do not form a good wall.

Stones should be placed in a good bond. This simply means that edges of stones on one course should overlap spaces in the lower courses. Where a stone on an upper course is crooked or does not fit firmly, earth and small stones can be packed in to improve the bond. No vertical crevices should be left.

The wall itself should slope *back* against the soil it is retaining. This gives it greater strength. The width of the base of the wall should be, again — as a rule of thumb — one-third of the height. It is the practice in many areas to slope the wall as much as 5 or 6 inches for each vertical foot, although this degree of slope is not essential. Soil should be firmly packed in all pockets in the wall and should be continued back into the earth being retained.

A retaining wall solves the garage grading problem. Foundation planting links it to house visually.



Wall Gardens

Both the strength and beauty of a dry wall may be enhanced by using it as a wall garden. It may acquire a mossy and aged appearance simply by green-planting in the soil in the crevices. A greater degree of color can be obtained, however, by planting any of several flowering plants, whose strong roots will serve the additional function of holding the wall together. Typical plants which may be used to good effect are: such flowering types as azaleas, alyssum, evergreen candytuft, heather, phlox, garden pinks, sedum, snowy rock cress, and creeping veronicas; such spreading plants as lavender, moss, phlox and hardy verbenna; small rosettes and little tufts that need sun and room for roots like sempervivum, dwarf iris, dwarf pinks and yarrow; and the plants you can grow from seed sown among the rocks such as bleeding heart, some ivies and varieties of poppy and phlox. Semperviviums, azaleas, prostrate junipers and dwarf azaleas keep a bank or rock wall green all winter.

Mortared and Concrete Walls

Mortared walls involve somewhat simpler construction problems than dry walls. The mortar serves as the bond and it is not as essential to match the stones. For the masonry wall, a cement mixture of 1 part Portland cement and 2 parts sand is a good bonding agent. Mortar should be liberally applied to form a bed for each stone as it is added, and the chinks between stones should be well filled with smaller pebbles or gravel. The mortared wall is much more permanent than a dry wall and easier to build.

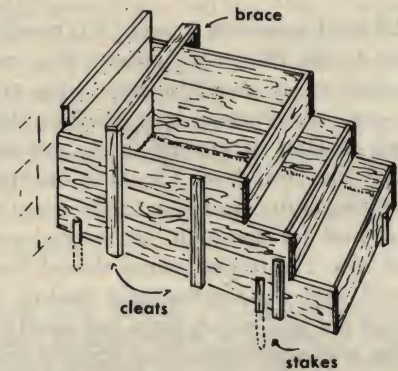
A concrete wall has greater strength than either a masonry wall or a dry wall. It requires the building of forms however, which is a somewhat more technical job. The forms should extend well below the frost line. They can be constructed of 1 x 6 scrap lumber, held together

by any length lath or 1 x 2 that is handy. Wire screening is inserted in the concrete to add strength and prevent bubbling or cracking. Such a reinforced concrete wall can be much thinner than either a dry wall or a masonry wall. The inner surface of the concrete wall should be sealed by using a waterproofing compound or tar paper.

The top of every wall, whether concrete, dry wall, or masonry, needs protection. This is afforded by using broad, flat stones as capstones to the wall. These can be slate or flat stones acquired in the course of collecting the material for the wall.

Steps

Steps present as ideal an opportunity for beautifying the outdoors as any other item on your landscaping agenda. Materials which can be used vary from round-cut logs to concrete, brick or stone.



Framing for building concrete steps.

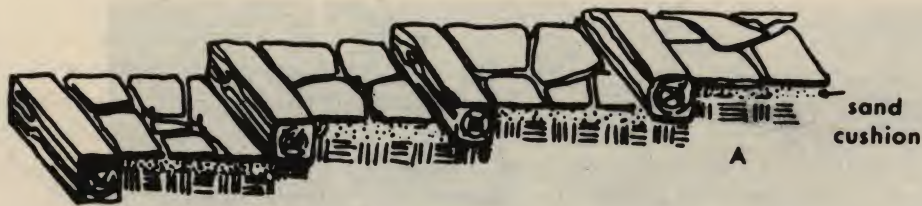
Brick steps bordered with ivy.



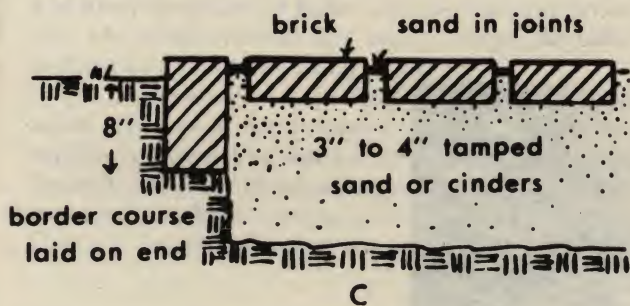
Rock-wall planting is a fascinating garden feature and also strengthens wall.



Ramp steps for informal setting combine fieldstone and logs in gradual climb.



Log slices for unusual path.



Brick path cross section.

Standard step dimensions for outdoors should be the same as for indoor steps, particularly in areas frequently used. The tread should be 10 inches deep and the risers about $7\frac{1}{2}$ inches. Treads should be $\frac{1}{4}$ inch lower in the front than they are in the back to permit drainage.

For any steps other than those made of rounds of logs, a good foundation is essential. The foundation should extend 6 inches below the frost line.

Concrete is an often-used material for steps, although it is not always the most attractive. A simple form can be constructed of a series of boxes, of 1x6- or 1x8-inch scrap lumber, each box the same width but 10 inches

shorter than the box for the lower step. The boxes are placed one on top of the other, and held together by outside lathing cleats. Corners should be well braced. Use 1 part Portland cement to 3 parts sand and 6 parts gravel. The cement is poured and the step tops are leveled by using the flat edge of a board.

If you use precast concrete blocks, the need for forms for step construction is eliminated. The cost is about the same as building steps of poured concrete, although the job—especially for a one-man operation—is easier. It is important to bond the blocks together well and you can obtain good appearance by applying a thin overall coating of concrete.

Brick steps are built in the same manner as concrete blocks, although more masonry skill is required. A layer of gravel is first laid over the subsoil as a foundation. The weakness of brick steps is the many joints that are required.

In constructing stone steps, the principal difficulty is finding the stone. While this presents no problem at all in some areas, in other areas stone must be purchased, and when this is true, stone steps are by far the most expensive type to build. They are also among the most attractive. Stone steps can be built without masonry bonding, if large enough stones can be found. The principles of dry-wall construction will apply. If steps are freestanding, mortar must be used. The foundation must be prepared as for brick steps. The concrete used to make beds for the stones must be placed carefully to keep a good pattern. Leveling must be done precisely (the string level is recommended). It is best to remove spilled mortar from stones while it is still wet, because when it is dry it presents a problem. Dry mortar, however, may be removed by using muriatic acid.

Wooden rounds cut from large logs make a beautifully and easily constructed set of steps. The bottom round is set in the earth, and the next one placed to partially cover it, leaving a riser. The ground is filled in under the upper round and firmly tamped, and this procedure is followed to the desired height.

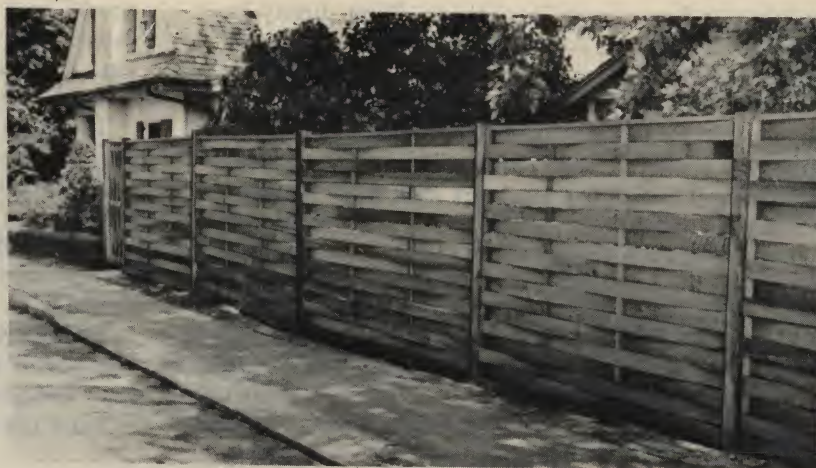
Informal wooden steps can be used for long slopes where there is no need for real steps but it is too steep for just a path. Ramp steps can be made with risers of large stone flags, logs or squared timber. The paths that lead to the steps should have the same width as the steps. The ramps should not rise too rapidly, the largest rise being $\frac{3}{4}$ inch per foot.



One way of meeting the challenge of a difference in levels is a rock garden between two attractive stone retaining walls. With a stone floor terrace, outdoor furniture, a white rail fence, a pleasant garden spot with a minimum of maintenance necessary is yours.



Six flagstone steps and a short retaining wall improve the appearance of these grounds and even of the house itself. Set off by rhododendron bushes and other low planting the grounds now have an organized and livable look. Pipes have been inserted at intervals to permit drainage through the wall.



Redwood basket-weave fence, 6' high.

Fences

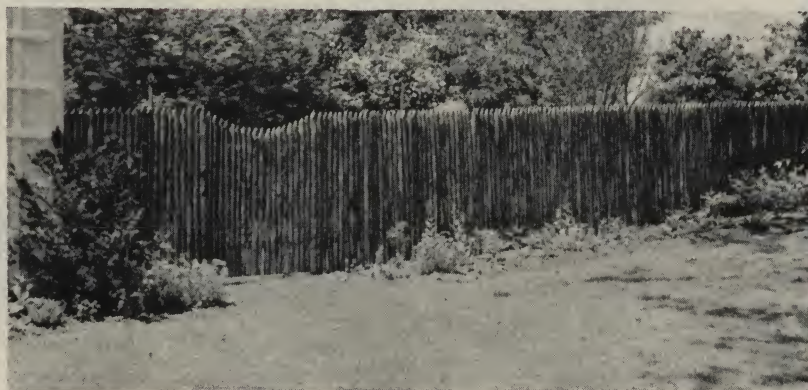
Fences are either open, to use as a trellis for roses or other plants, or they are closed to serve as a wind, sun or privacy screen. The materials will depend largely upon the use to which the fence is to be put. The most popular, and probably the most attractive, fences are built of wood in various forms, but newer fences of asbestos-cement and corrugated sheet metal are colorful and stand up against rot better. Because they are heavier, they are usually erected in a zigzag design, the better to stand up against prevailing winds.

The major problem in prolonging the life of a fence stems from rot at the ground line, for here it is susceptible to alternating wet and dry conditions. Among the best woods for withstanding rot are California redwood and Southern cypress, white cedar and red cedar, chestnut, locust and arbor vitae. While painting the

wood with preservatives often lengthens the life of your fence, this will do no good unless the preservatives penetrate. That's why a post that has been machine-creosoted will resist rot, while a hand-creosoted post will not. However, if you use a good preservative on a clean, dry, unpainted wood, and give the wood two or three coats, you can do a good job. Among the commercial wood preservatives you will find those of pentachlorophenol, copper naphthenate (which has a green color) and zinc naphthenate, a clear solution.

In addition to the point where the post hits the ground, any place where two pieces are nailed together on a wooden fence is subject to rot. Therefore, it is wise to treat the wood where the members are joined before you put up the fence. This will preserve it much better than painting afterward.

Set your fence posts deep enough in the ground to resist the prevailing winds, at least 2 feet and even



Cleft-cedar picket fence affords privacy.

deeper. Set heavy posts in concrete. Tamp firmly in place so the fence will not wiggle. Hardware used should be galvanized.

Among the most popular types of fences are the traditional picket, the post-and-rail fence and the hurdle fence, but with increased stress on privacy screening, the louvered and lattice types are ever more popular.

The post-and-rail fence is made of posts spaced at 10 foot intervals with large slots cut in them. The 11-foot-long rails are tapered to flat ends, which are inserted in the posts. The hurdle fence has split rails built into a braced frame and nailed together, with the end pieces of each panel becoming the posts.

The picket fence, traditionally white, has posts spaced from 8 to 12 feet apart, rails 3x4 inches, and pickets 2 to 3 inches wide, pointed at the top. The pickets

should be 2 inches off the ground at the bottom and extend well above the top rail. The spindle fence is a kind of picket fence with round spindles that pass through holes in the rails.

There are many possible variations of board fences used for screening. A broad rail may be alternated with a narrow rail, or the boards may be applied vertically, like palings, with, perhaps, a staggering of the boards on either side of the rail. Boards may be slanted in a louver effect to give privacy while admitting air and sunlight.

A basket-weave fence can be constructed of thin, flexible boards and provides total screening and a handsome background for planting. It is somewhat difficult to build yourself, however.

A unique patio retreat that is impervious to the hazards of weather uses multicolored ceramic mosaics as a background for pool sculpture and tree shrubs. The furniture is appropriately of wrought iron.





Soils and Lawns

THE most important tool with which the gardener works is the soil on his land. The qualities of soil vary greatly from area to area, and all the information outlined in this chapter must be applied to local conditions. In general, however, soils can be divided into three categories; claylike, sandy or silt. The ideal soil consists of a good mixture of sand, silt and clay, and is classified as good garden loam. Clay soils have the greatest water-holding capacity, sandy soils the least.

The binding material of all good soils is an organic substance called humus. Humus increases the water-holding capacity of the soil, readily absorbs the sun's rays, liberates beneficial compounds for plants from the soil and fertilizes and improves soil texture. Humus is added to the soil by the use of organic fertilizers such as manure or the product of a compost pile. Humus can be purchased directly, but the expense is usually prohibitive if it is a large area that needs treatment.

The soil is a living thing. In the tiniest area, several million animal and plant organisms carry on their appointed tasks. The greater the bacterial activity, the more fertile your soil. Fertility requires four elements: bacterial life, sun, water and food. Given the sun, all of the other elements can be added to the soil by proper treatment. Organic fertilizers provide the soil with all of the three important elements. There are a number of ways in which these materials can be added to the soil.

A few of the most common and easily used follow.

The Compost Pile

A compost pile is a combination of soil and such organic materials, possibly, as manure, garbage and plant cuttings. It is prepared by first placing a layer of inactive material (dried weeds, for example), and then placing a layer of soil, alternating succeeding layers of organic material and soil to a height of about 4 feet. The width of the pile should also be from 4 to 6 feet. The compost pile should be kept well wetted-down, particularly during the first week or so of standing, and should be turned over at regular intervals. When decomposition has proceeded to a sufficient point, the compost can be spaded into the soil.

Mineral and Nonorganic Fertilizers

Organic fertilizer, such as that found in a compost pile or animal manure, can be combined with inorganic fertilizer to make the best soil food. Organic fertilizers are classified according to their content of nitrogen, phosphorus and potash. You may see a fertilizer designated 2-6-2. This means that it contains 2 parts nitrogen, 6 parts phosphorus and 2 parts potash. The numbers designating the content of inorganic fertilizers always indicate the proportions in the order noted above.

Cover Crops

Certain crops will add these inorganic elements to the soil as they grow and also provide a valuable organic manure. These cover crops are the easiest way to fertilize land, although they take time, usually a season, to produce their best effect. Cover crops such as alfalfa, soybeans and similar crops add nitrogen to the soil when planted and, when plowed under at the proper time, provide more. A good cover crop of legumes, plowed under at the proper stage, can add 100 to 150 pounds of nitrogen to the soil per acre, or the equivalent of 10 to 15 pounds of animal manure. Nitrogen and mineral content in the cover crop are highest just before maturity and should be plowed under then. Hairy vetch, for example, a good cover crop for the home gardener because it is a winter annual and a good soil builder, may be sown early in September and should be plowed under in May.

Keeping the Soil in Condition

Soil requires care. Fertilization during the course of the growing season, as well as in the course of preparation, is of great importance. The best and easiest way to effectively fertilize is to add either organic or inorganic fertilizer to a quantity of water and then distribute it over the soil. This assures even distribution and quick absorption. Or spread it by hand or with a spreader, as on a lawn, and then wash down with your hose.

If you are working on building up a good soil foundation, apply your fertilizer before you spade or till, and then try to work it in evenly.

You may have to use lime, particularly if you live in the Atlantic Coast region where there is less calcium in the soil and, consequently, the soil is acid. If you



For fertilizing soil before planting, a spreader is very handy to have.

use pulverized limestone, with lots of organic matter, you are not apt to use too much.

Seed Selection For Your Lawn

When you select seed for your lawn, the main consideration is the exposure to sun and shade your grounds afford. Most commercial blends are adapted to full sun or medium shade. A special blend should be used where there is less than three or four hours of sunlight a day, as under trees, or where soils are dry and poor. In general, heavy grass seed is most free from chaff and is most economical in the long run, while a cheaper, lighter seed germinates less rapidly.

Kentucky bluegrass is considered the best lawn grass. It forms a thick turf and will grow in alkaline or slightly acid soil; it resists weeds to an extent. Bluegrass does not require a resting period in summer, but lack of sufficient moisture causes it to brown and go dormant. It tends to soil light-colored clothes.

For putting-green lawns for a small area on a terrace or in a garden, bent grasses are used. Colonial bent is widely used in mixtures, thriving as it does under less favorable conditions than those required by creeping bent or velvet bent. The bent grasses are low-growing, fast-spreading grasses, needing frequent mowing and top-dress.

Redtop combines well with Kentucky bluegrass because it rests in fall after the bluegrass has recovered, and it does not stain.

Chewings fescue is a fine-textured shade grass. Maturing late in the season, the various fescues resist mid-summer drought, grow well in acid soil and fight weeds.

For new lawns, rye grass, a perennial, is a tough, quick-growing grass which helps keep out weeds until the lawn is under way.



Good lawns, some flowers and cover do well in shade, as is shown here.

Suggested Seed Mixtures

Cornell University	New Jersey Agricultural Experiment Station
Mixture for General-Purpose Lawn	Mixture for General-Purpose Lawn
For soils of average-to-good fertility and sunny exposure.	Kentucky Bluegrass 50%
Kentucky Bluegrass 50%	Redtop (re-cleaned) 25%
Roughstalk Meadow Grass 15%	German Mixed Bent 10%
Rhode Island Bent 10%	Rye Grass 10%
True Creeping Red Fescue or Chewings Fescue 10%	White Clover 5% (optional)
Welsh Pasture Timothy No. S. 50 10%	Mixture for Shady Areas
Kent Wild White Clover 5% (optional)	Chewings Fescue 40%
	<i>Poa Trivialis</i> 20%
	Redtop 10%
	Kentucky Bluegrass 10%
	Meadow Fescue 10%
	Colonial Bent Grass 5%
	Velvet Bent Grass 5%

Bermuda grass is used in the South and the Southwest, where soil is sandy.

Whether or not clover is to be used with these grasses is a personal matter. With its white flower and its tendency to grow in patches, it spoils the continuity of the turf, but, on the other hand, it will grow in poor soil, edging out weeds that might grow in these areas.

A mixture of grasses gives better satisfaction than a single species as a rule, because the various grasses are active in development at different seasons. Mixtures stand up against disease and disorders that will attack one grass and leave another alone.

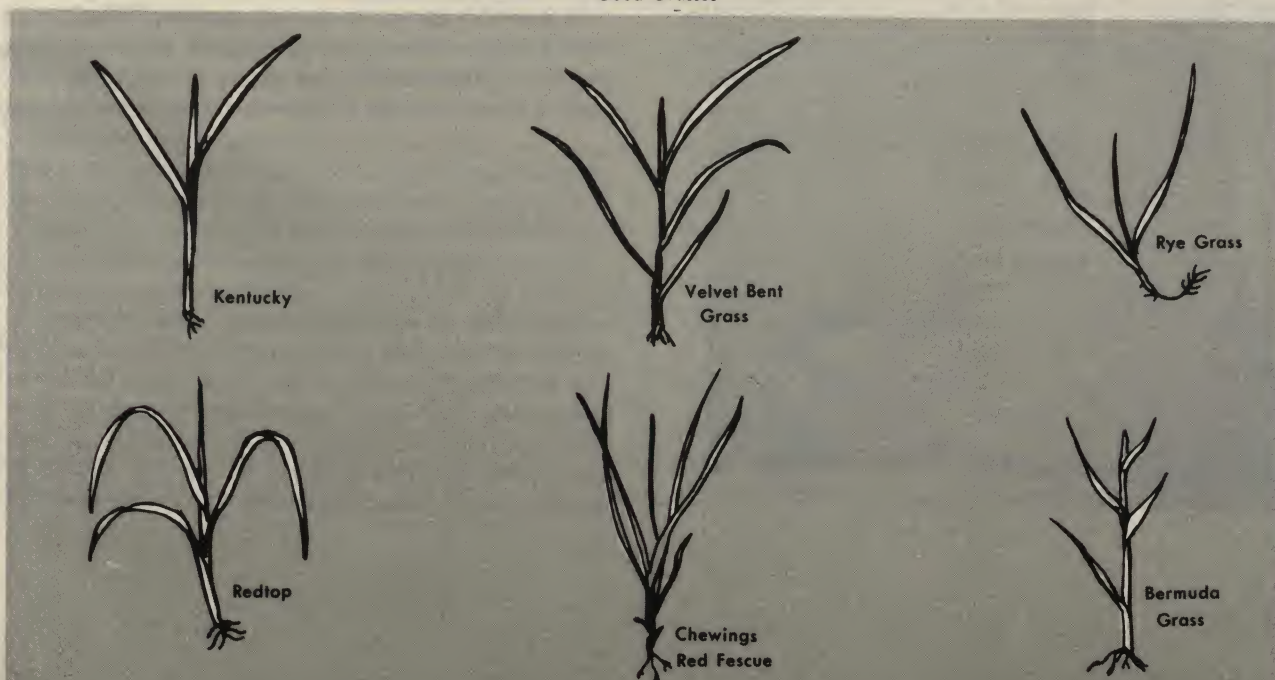
Other Ground Cover

In many cases cover other than grass is desirable. Foundation plantings, banks, shady places, all often require other cover. Good covers are dependable, inexpensive and not weedy.

For open sunny areas, banks, or where a large, high cover is wanted, wild trailing rose with its white blossom is most popular; it makes a thick mat of foliage 2 feet off the ground. Also in sunny places, various forms of juniper (e.g., creeping juniper, which is long, low and spreading; Waukegan juniper, blue-gray except in winter, when it is purple, and Sargent juniper, a dense green type) form a mat 8 to 20 feet high. All are attractive either pruned or in a natural state.

For deep or light shade, there are evergreen vines such as the Baltic ivy and pachysandra, periwinkle with its blue-and-white spring flowers, and plumbago which has brilliant blue flowers in the fall. English ivy is good for the shady north side of buildings. For soil too sandy for shrubs there is Scotch broom, which bears yellow blooms. Other covers include hay-scented fern, sandwort, lily of the valley, maiden pink, wintercreeper thyme and phlox.

Good Grasses





An open barbecue terrace with access from the covered porch has become an outdoor annex to this house. After proper grading to raise the area the existing stone foundation of the house was extended as a retaining wall. Flagstone provides the surface for terrace and steps. The wrought iron railing is both protective and attractive.

A covered walk from garage to house becomes an integral part of the landscaping of this charming period home. The change in elevation is emphasized by a fieldstone retaining wall that blends so well with the brick walk, steps, and house wall. The shrubs and vines lend added distinction to the graceful white fence and posts.



Suggestions are often made for cover which can take the place of grass for lawn, but such covers are usually much more difficult to maintain than grass, even though it is claimed they do not require mowing. Among them are chamomile, a flowering perennial used in medieval times for turf, and while fragrant and soft, untidy and weak; sandwort, which has rather fleshy leaves with a smooth surface. Sandwort grows 1 inch long and must be kept mowed to remove the seed stalks. Pearlwort, which has to be watered freely, is only practical in a hot, humid climate; it is a haven for grubs, moths, beetles and sow bugs. Dicondra, a low-creeping herb used on the West Coast for cover, is considered a weed by many, and while easy to grow, does not stand up well against abuse.

Sowing Grass Seed

Every authority states unequivocally that fall is the best time to seed, preferably in September after the months of hottest weather and when there is a good moisture condition. If you seed in the fall the grass will thrive, but, nevertheless, the heaviest sales of seed are in the spring. If you do seed in spring, start as early as the weather permits so that there will be good root growth started before hot weather sets in. May plantings usually suffer from competition with crab grass and other summer weeds as well as from heat and inadequate moisture. Usually it is best to make a temporary lawn of rye grass where seedings are necessary in late May or during the summer, and then turn this cover under for permanent seeding in early fall.

Grass seed is relatively small and must not be planted deeply. Cover larger seeds such as rye grass and Chewings fescue with soil to provide enough contact with the moist soil for germination and growth. Small seeds such as the bent grasses need only partial covering in moist seasons. You will need 4 pounds of seed for 1,000 square feet of lawn; heavier seeding will not make up for poor-quality seed or a poorly prepared seedbed as it merely causes an excess of competition between seedlings.

If possible, use a mechanical spreader. Whether by hand or spreader, sow by dividing the seed, spreading part in one direction, the rest crosswise to the first. This insures even coverage and lessens the chance of missed

spots or windrows. Rake the seed lightly, or drag a flexible steel doormat over the area. Then roll lightly to firm the seed into the soil. Small lawns may be top-dressed with $\frac{1}{8}$ inch or so of screened soil or compost.

Slopes require special treatment as new seedlings on them are likely to be washed by heavy rains. You can use straw to cover them, but it must be picked up as soon as the grass gets started. Or the new seeding can be promptly covered with open mesh burlap or cheesecloth or a special garden-supply stock of open mesh cloth that can be left in place to rot and become part of the soil. This prevents soil erosion and keeps the soil surface moist, protecting the young seedlings

from damage by exposure to the sun. Ordinary burlap should be removed when grass sprouts are $\frac{1}{2}$ to $\frac{1}{4}$ inch long.

Natural rainfall is best for new seeding, but if the weather is dry it is necessary to water for prompt germination. Do your watering in the morning, with a fine mistlike spray to avoid puddling or crust formation. Once the seed has started to sprout, the moisture supply must be constant or the plants may die. For level places use a sprinkler and get the soil wet at least 5 inches with each watering, but don't keep watering until the soil is waterlogged and too compact. For slopes use a canvas hose, or wrap the hose in porous canvas, so that the water will ooze out slowly in big drops and go off into the soil quickly.

Seed mixtures in new plantings develop unevenly. The "nurse" grasses (such as rye grass), and the semi-permanent types will grow rapidly. To prevent their damaging the slower-starting permanent grasses, such as the bluegrasses, by their shade or competition for moisture and soil nutrients, begin mowing when the tallest grass is 2 inches. Do not mow shorter than $1\frac{1}{2}$ inches.

Renovating Old Lawns

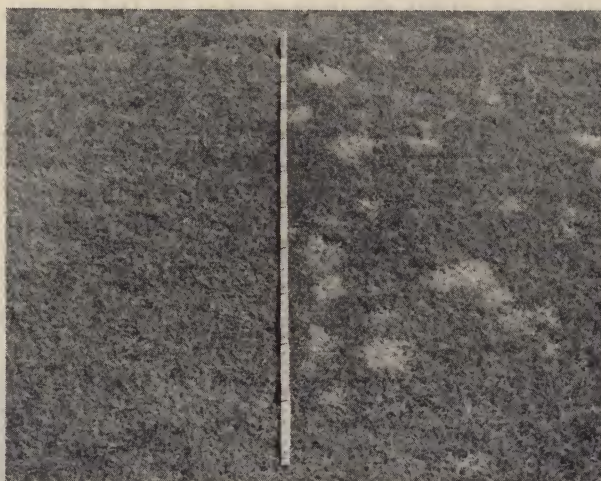
If you have been struggling in vain with a poor lawn, you might just as well do something drastic with it, such as spade it up and rebuild it. If you do, however, be careful not to build in the same mistakes again. If there are puddles or pools on your lawn for a long time after rain, you may need to lay drain tile or get a good layer of gravel under the topsoil.

If your problem is due to a hard-baked soil and the grass is thin and anemic, spading up or plowing followed by soil preparation and reseeding, is probably the best procedure. If limited areas (such as paths or low spots or areas under trees) get too packed, they can be loosened and cultivated, or opened up by aerating to a depth of 6 or 8 inches. You can do this with an ordinary spading fork, driven deep and worked back and forth to enlarge the openings. Brush sharp sand or compost into the holes to attain better movement of air and moisture through the soil.

Many poor lawns are due to poor soil conditions and can be improved by a better feeding program. Use 4 pounds of plant food for each 100 square feet of lawn. If the grass is too thin, try plant food along with new seed.

If your old lawn is bumpy, level it down, raking top-dressing into the hollows, or peel back the sod, filling in the hollow with good soil and replacing the sod.

A mossy lawn is usually due to poor drainage, not to acidity in the soil, as is widely believed. A mossy lawn may need a change in grading for improved drainage, or raking and liberal fertilization.



At left, lawn after feeding; right, nonfertilized lawn suffering from snow mold.

Fighting Insects, Diseases, Weeds

Weeds in an old lawn, or in a new lawn, can best be combated with chemical weed-killers such as 2,4-D compounds. Using a granulated chemical with a spreader is sometimes preferable to a liquid spray. Spray must be used on a day when there is little or no wind as drifting spray kills and harms vegetables, flowers and shrubs. Feed your lawn after spraying against weeds, so that the grass can thicken up and fill in the bare spots more quickly.

However, one must keep in mind that the best way to prevent weeds in the first place is to have a healthy lawn, with good soil providing sufficient nutrient for the grass you plant. Weeds come in *after*, when the lawn is badly thinned for one reason or another. For example, a lawn may be thinned by diseases which are overlooked in our haste to lay the blame on weeds.

It is true for diseases that commonly attack turf, too, that preventive steps are the best, and that a healthy turf will be better able to ward off the disorders that occur. As previously stated, a mixture of seeds is more resistant to disease. Excess moisture in the soil seems to be a cause of many diseases. Another cause is poor circulation of air for the grass roots, due to near-by trees, shrubs, and buildings. You can do a little about this by pruning.

Close mowing causes some diseases since it weakens the grass and causes more succulent growth, which, in turn, brings about fungal attacks. If the mowing height is not below $1\frac{1}{2}$ inches, even though the lower leaves may be attacked, the newer leaves may not be.

Watering late in the evening is a poor practice because if the grass remains wet at night, disease is invited. And if you use fertilizer to stimulate turf grasses, do so in the early spring and fall when the grass is

healthy, not during the summer when the leaf is succulent and tender and easily attacked by disease.

A healthy turf will not in itself combat insects, but they will not be able to do as much damage if the grass is strong. If you suspect insects, such as grubs, roll back a foot of sod. The presence of some insect infestations in your lawn may be disclosed by flocks of birds, such as sparrows, starlings and grackles; they drill holes in the ground with their bills to feed on the grubs, sod

webworms and other pests.

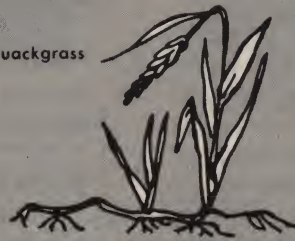
Moles are seldom a bother in turf areas except when attracted to grubs or other soil insects in the area. This provides the key to getting rid of moles—getting rid of grubs. Actually, moles can be beneficial, they eat bugs, beetles, earthworms, spiders and grubs. But they do harm a lawn when they cause bumpy ridges, which then become runways for mice—and mice feed on bulbs and roots.

Common Weeds



Dandelion

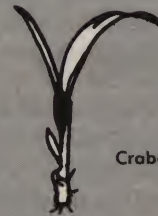
Quackgrass



Buckhorn



Plantain



Crabgrass



Poa annua



Chickweed

LAWN CARE*How To Combat . . . Weeds*

Type	Description	Control
BUCKTHORN	Flowers in summer; withers in fall.	Cut out, hand pull or use 2,4-D.
CLOVER	Considered weed by those who object to white flower in lawn.	Repeated doses of 4-XD, MCP or other chemicals.
CHICKWEED	Spreading broadleaf with small white flower.	The best time to control chickweed is during cool weather (February-March) when the plants are young and the leaves succumb to weedkiller.
CRAB GRASS	Worst weed; spreads by seeds; annual; smooth and hairy types.	PC or DSMA or DMA (follow directions exactly). PC browns Merion Kentucky bluegrass but not all lawns.
DANDELION	Broad, ragged leaf; yellow flower.	Hand pull and 2,4-D.
FOXTAIL	Annual; over 60 types; clustered seed-head with green-yellow bristle.	Prevent seed production. Collect clippings and burn.
GOOSE GRASS	Annual; flat, 3-fingered-seed stem arrangement. Appears in hot weather.	Hand cut or use commercial drop of sulphuric acid.
KNOTWEED	Hot-weather weed; wiry stem; little leaf growth.	Hoe; hand pull. Resists chemicals but succumbs to many treatments 2,4-D.
PLANTAIN	Broadleaf; tall seed stalk.	2,4-D.
QUACK GRASS	Spreading, coarse growth; ashy-green stalks.	Smother with paper or tar mulch to starve roots. Chemicals kill only top growth.
WILD ONION	Deeply imbedded bulblets.	Put lime in soil. Use chemicals when plants appear in spring. Try 2,4-D. (Hand pulling won't work.)

LAWN CARE *How To Combat . . . Disease*

Type	Description	Control
ALGAE	Blue-green scum on wet lawns; form tough coating, turn black and leathery.	Rake from different angles; apply light sandy loam dressing.
BROWN PATCH	Fungoid disease, in large (6 in.) or "dollar"-size circles. Attacks bent grasses and redtop.	Indicates poor drainage. Apply commercial fungicide.
DAMPING-OFF	Brown patches on seedling grass. Fungus disease that withers grass.	No preventative known.
LEAF SPOT	Fungus that attacks Kentucky bluegrass. Tiny brown specks on blades. May be from mowing too closely.	Higher mowing; try light feeding to get stronger plant.
SNOW MOLD	On close-cut bent grasses in late fall or early spring.	Apply mercury compounds.
SUN SCALD	Injured or killed patches occurring during sunny part of day caused by waterlogged soil; suffocation of grass roots.	Tile drainage for permanent relief; or spiking and turning.

LAWN CARE *How To Combat . . . Insects*

Type	Description	Control
ANTS	Black, hairy, hard-bodied type. Harm lawn indirectly by throwing up unsightly mounds; burrows hurt roots. Also, ants foster plant lice (aphids).	Lindane and chlordane poured into burrows (be sure to kill entire nest). Ant traps or jellies. Also fumigants, but use with caution.
CHINCH BUGS	Hairy type, 1/8 in. long. Black body, white wings, Sucks juice from leaves and stems (plants brown and die). Prefer thick turf.	Dust turf with Sabadilla dust, derris dust, DDT or nicotine, in clear, warm weather only.
SOD WEBWORMS	Small gray worm. Epidemics do much damage, but not many epidemics.	Commercial pest controls. Dry or dust mixtures better than spray.
WHITE GRUBS	Japanese and Asiatic beetles lay eggs in lawn in summer that hatch into tiny white grubs. Feed on grass roots until winter; return in April. Phenomenal rate of increase.	Lead arsenate, a dangerous poison, was used till recently. Now possible to inoculate soil with disease that destroys grubs in soil. In infested areas, use commercial pest control with fertilizer.



Trees

TREES can be broken down into three main parts: the roots, the leaves and the woody structure between them. The roots' function is to bring raw materials—water and mineral salt dissolved in water—to the tree. The leaves absorb carbon dioxide from the air and use the sun's light energy to combine this gas with the moisture from the roots, thus making the simple sugars which are the basic nutrients of the tree. The trunk, limbs, branches and twigs hold the leaves in position to receive the life-giving sunlight and air; they also act as transportation, carrying raw materials between roots and leaves. The materials absorbed by the roots are pulled up by capillary attraction and the osmotic action induced by evaporation of water from the leaves. Loss of water through the leaves is called transpiration. On a summer day, a single birch tree may transpire 700 to 900 gallons of water. It is this enormous flow of water that causes a continuous flow of sap from the roots to the topmost twigs.

In planting or transplanting a tree, and in building on a lot where you wish to preserve the trees, the gardener's chief consideration must be to protect the root structure of the tree. The big roots near the stem anchor the tree to the ground, while the fine root hairs at the ends of the rootlets absorb the water from the soil.

The stem or trunk of a tree has three parts: the bark, the wood and the pith. The pith is the central part and around it is the wood. Between wood and bark is the cambium, a thin layer that produces new wood and bark. When the cambium ring is severed, as by a wire cable, the tree is killed, and since the cambium protects against insects and disease, anything driven into it can wound the tree severely.

Outside of man himself, trees have countless enemies. There are 200,000 known kinds of insects that attack trees, in addition to diseases such as blight, rust and rot,

storms and droughts. Luckily, birds help to keep caterpillars, borers, beetles and other insects in check.

Planting

In planting trees, their mature height and spread must be considered before a selection is made. Tempting as are the nursery catalogs, it is necessary to choose carefully, especially on the average lot, because crowding spoils the growth and appearance of trees, particularly specimen trees.

In general, it is wisest and most economical to plant young trees. Planting a mature tree is difficult and, if done professionally, costly. If, however, a mature tree is badly needed for a terrace or for screening, it may well justify the expense. What you are buying is the time it takes a smaller tree to mature.

Today you can plant trees when in full leaf with the aid of new wilt-proof sprays that seal the leaves against moisture loss until the roots are established. This, however, costs money and entails greater risks than buying your tree and planting it in early spring (the best time) or late fall or winter. If you are planting a tree over 6 feet tall, it will suffer less setback if moved with a burlapped root ball.

The soil preparation described in the previous chapter is helpful for most tree and shrub planting. But since the root system must have fertile soil when it is planted, special steps must be taken. Dig a hole 2 feet deep and at least 1 foot wider each way than the full spread of the roots. The bottom of the hole should be broken up with a pitchfork and thoroughly mixed with peat, leaf mold, loam, etc. Manure should be used sparingly and only on the top of the hole as it burns the roots. The deeper you can cultivate your hole, the better for your tree. Once it is planted, you can cultivate around



White clump birch and ramblers supplement a setting of greenery.

it but not under the roots. If you strike a subsoil of building rubble or clay, which you are very apt to find anywhere near a house and in which a tree cannot grow, this subsoil must be removed and good soil, or better still, garden humus, substituted for it.

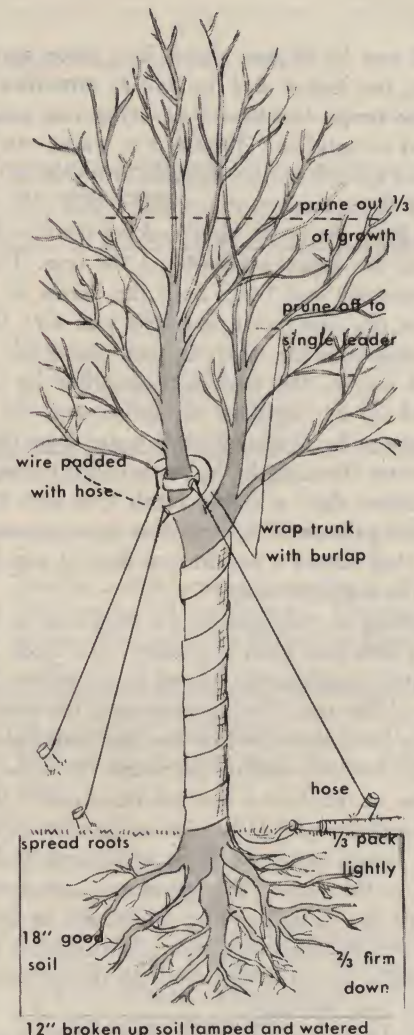
If you are planting a seedling that is not balled and burlapped, you will want to protect it by "heeling in" a vacant flower bed where it may be kept before planting as long as dormant. This means laying it on its side and covering the roots with good soil. When you take it from the soil, give it a mud bath or "puddle" it. Puddling protects the roots from exposure to air before planting and also from any air pockets which may exist after planting. Having filled the hole to the depth required by the roots of the plant, flood it with water to settle the soil at the bottom; when this has drained away, place the tree in the position in which it is to grow and settle the soil about it. Use a stick or shovel handle to work the soil around the roots, and make certain there are no air pockets. Spread the roots out naturally, planting the tree at about the same depth as in the nursery or its former location. When the hole is two-thirds full, trample it down and again fill with water. Don't firm down the remaining soil, so that the water will drain towards the trunk.

A balled-and-burlapped tree is one dug with a solid ball of rich, heavy loam in which it has been growing in the nursery for years, its root system thus amply

covered and protected. The ball is firmed and held in place by a secure covering of twine and burlap. To plant it, set the tree in a hole a trifle lower than it stood in the nursery. Work the soil beneath this depth, as directed above. Dig the hole about twice the size of your ball and plant at once. If the ground is dry at planting time, fill the hole with water and let it soak away before planting. Cut the burlap at the top when you put the ball in place, rolling it back 3 or 4 inches. Plant ball, burlap and all—the burlap will soon rot away.

If you are planting a big tree, it is transported in a truck, lowered to the ground by winches, rolled along a plank track on rollers and maneuvered into the exact center of the hole on a single board. A holding rope from the truck to the base of the tree trunk helps to position the tree.

After the tree is planted, cutting back is proper. Cut back sharply, at least one-third, pruning the branches.



12" broken up soil tamped and watered

Mixed Peat, Leaf Mold, Loam, etc.

Steps in planting a tree correctly.

A GUIDE TO SHADE TREES

Large Trees For Shade And Background

American Beech	Beautiful tree with edible nut. Long-lived and relatively free from insect and fungal diseases. For accent planting. May be clipped, as hedge, for formal settings.
American Elm	Very tall, with attractive vase form. Early bloom. Excellent for shade but widely disappearing because of Dutch elm disease, (<i>pulver necrosis</i>)
American Linden	Tall tree. Provides dense shade. Has fragrant yellowish flowers. Prefers a moderately moist soil.
Chinese Elm	Medium height. Small dense foliage. A rapid grower, excellent for screening or wind-break. A widespreading tree with slender limbs. Makes good shade in five years.
Hackberry	Usually a small tree, but with a wide spread. Has cherry-like fruit lasting late in winter. Survives drought, hardy in the cities.
Moraine Locust	Majestic tree. Hardy to cold. Survives drought and flooding, smoke and soot. Lawns flourish under it since it is late in leafing, has no seeds to clutter lawn. Fast growing.
Norway Maple	Trees of medium height. Most widely planted street and lawn tree. Dense growth. Symmetrical. Orderly habits—free of insects and disease. Leaves turn bright yellow in fall.
Pin Oak	Remove lower branches if used for lawn tree. Least threatened by disease of all shade trees. Not good in alkali soil. Makes good windbreak. Symmetrical and pyramidal in shape with clean, glossy leaves. Turns scarlet in fall.
Red Oak	Rapid-growing tree with rounded head. A large tree appropriate for large lawns. Has glossy, deep-cut green foliage, which turns deep red in fall.
Silver Maple	Most rapid growing of all maples. A large spreading tree. Well-cut leaf with a silvery cast and silvery bark. Good sap for sugar making. Early blooming.
Sugar Maple	Grows well in any soil. Ideal for street planting as it grows straight and tall and gives good shade. Turns beautiful orange and scarlet in the fall. Source of maple sugar.
White Clump Birch	In natural setting or as lawn specimen, this multiple-stemmed tree is effective. White bark. Upright growth with horizontal branches.



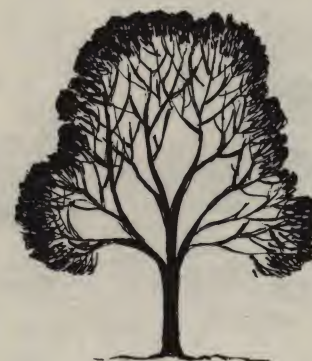
Pin Oak



Hackberry



Silver Maple



Locust

Four Fine Shade Trees



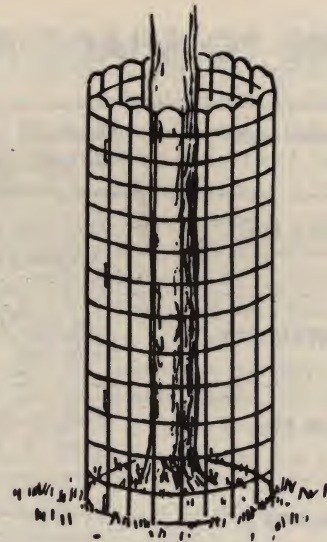
Heeling in for shrub-root care.

It is necessary to brace the tree with wire ropes so that the roots will not be broken by the wind. Use a single wire around the trunk and three guy wires.

For the first year after planting, the more cultivation the better. Keep weeds away, too, with straw or mulch, and strawy manure mulch in the spring and fall will help keep the moisture in the ground.

Feeding Trees

When trees grow naturally in the forest, the leaves fall around them, decay and form a good soil. The leaves also preserve moisture in the soil. On a lawn, however, the tree must compete with the grass for moisture and nutrients, and the leaves are raked up to prevent grass disorders, so that the successful gardener



Chicken-wire guard against rabbits and mice.

finds it wise to supply nutrients every two or three years. Feeding should be done when the ground is workable, in the spring or in the fall.

A difficult but worthwhile method of feeding is to strip the sod from an area all around the tree extending at least 2 to 3 feet beyond the outer branches, since the root system extends this far. Apply stable or barnyard manure to this area, spreading it 3 inches thick and digging it in. Then firm the soil, rake it level and return the sod.

An easier method is to drill holes over the same area, 12 to 18 inches deep and spaced about 15 inches apart. Fill each hole with a commercial fertilizer (made up of bone meal, tankage, peat moss or humus) plus chemicals, in a formula containing 10% nitrogen, 6% phosphoric acid and 4% potash.



With careful planning the most formal and picturesque landscaping can be self maintaining. The natural rock formation is used to best advantage incorporated in the planting and pool. The brick terrace holds the warmth of the winter sun and the trees' shadows keep it cool in hot weather. Evergreen plants and shrubs retain their color through the seasons.



Dining out of doors merits privacy. This barbecue has been placed in the corner of the property where it is protected on two sides by a fence and separated from other outdoor activities. A low stone wall extending from the fireplace provides additional seating space when entertaining.

Water and Trees

Because of the transpiration of a tree, especially in the hot days of summer, lawn and specimen trees must be watered at least every 10 days in summer to avoid trouble. Since the roots are deep, light watering won't do. The hose or sprinkler should be used for at least an hour. If the soil is hard-packed, loosen it with a fork. For a large tree, drive or bore a number of 1½-inch holes 3 to 5 inches deep and 3 feet apart, below the outer branches. Use a canvas hose or cover the hose with a gunny sack and let the water run. When planting new trees or small trees, if you put a few pieces of drain tile in the hole and put the hose in these, you can insure the water reaching the subsoil. Cover the drain-tile holes with stones to avoid evaporation.

Tips On Care

Certain trees will not live long if a fill of soil is laid over their roots, or if a terrace of blacktop, stone, brick or concrete paving blocks is laid over their feeding roots. Large, valuable trees should be protected with drain tile so that they will get water and air. The bark should be protected from dirt from a fill directly against

it. You can buy metal tree wells, 3 to 7 feet across and 1 to 3 feet high, or build a masonry wall. The wall can be capped with a circle of bricks or a low wall to make an extra seat on the terrace. If you have some surface other than sod or earth around the tree, see that it does not extend as far as the tree's outer feeding roots, and leave a circle of natural soil around the trunk. This can be planted.

Care for your trees as injuries occur rather than wait to call in a tree surgeon and allow a weakened spot to remain untreated. Remove all dead, decayed, diseased or injured bark. Do this by removing the entire limb, or, on a large limb or trunk, dig out the decayed matter, sterilizing and waterproofing the cut surfaces with creosote and liquid tar. White lead or paint are not as good to use as they will not seal when used on damp surfaces. Fill deep wounds with concrete. Use a pruning hook carefully, avoiding bruises.



An outdoor living room set within a flowered lawn is afforded shade by an overhanging tree. The patio flooring continues the stone motif of house and fence.



Flowering trees are in good proportion to this classic small house

Evergreens

Evergreen trees and shrubs are more expensive in general than deciduous trees (trees that drop their leaves in winter). But they are worth their cost because of their year-round beauty, hardiness and longevity. Evergreens range from the broadleaved shrubs like rhododendron and laurel to the tall-needled cone-bearing pines and stately spruces. The giant spruces and firs are most effective as windscreens; the spreading evergreen shrubs are widely used not only because of their attractiveness but also because they can be shaped and trimmed and do well in the shade (such as for foundation planting).

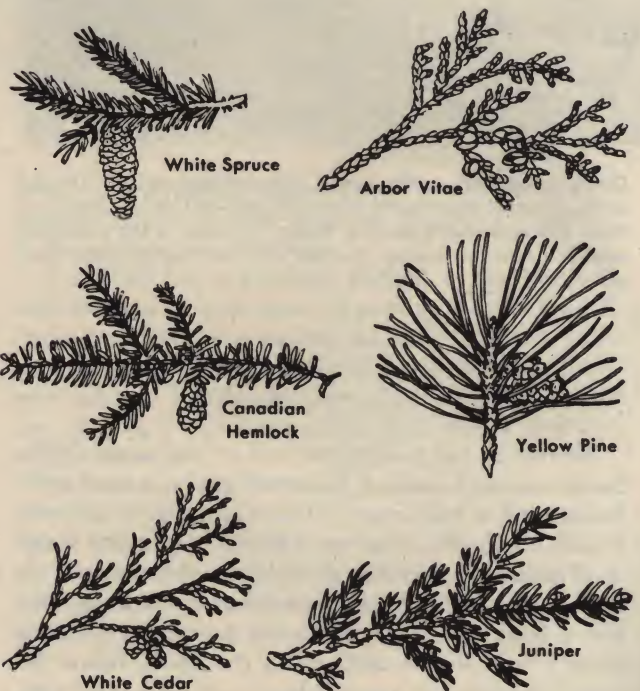
Pine is the most commonly known of the evergreens. White pine is noted for its long, soft, light silvery-green needles and rapid attainment of its 60- to 80-foot maturity. Red pine, as well as white pine, is splendid for backgrounds and windbreaks. Ponderosa pine, a broad,

Evergreens and ivy are important elements in this well-designed garden.



compact tree, is used for protection and ornamental screens. Austrian pine (black pine) with its rich, green color and spreading branches has great favor in the Midwest. Globe mugho pine is a small, rounded tree for ornamental planting.

Norway spruce is probably the most widely planted windbreak evergreen. Quick growing and hardy, it has short needles of dark green; is a compact, pyramidal shape. Black Hills spruce grows to 40 feet in time, is hardy and drought-resistant. A slow grower, it can remain in close quarters for many years. White spruce has short, thick, light blue-green needles; it matures at 60 to 70 feet and is good for landscaping and screens.



How To Recognize Evergreens

Colorado blue spruce is a good specimen tree and hardy, too, but it suffers in heat and drought.

Of the cedars, red cedar is a fine ornamental evergreen for hedges and windbreaks. It withstands dry weather and the thick, green foliage has a bronze in winter.

Douglas fir is the best fir for windbreaks and screening. Hardy, healthy, drought-resisting, it grows quickly and compactly, and its lofty pyramid makes a good lawn specimen. Balsam fir, the Christmas tree, is noted for its fragrance and lustrous foliage. White fir, a specimen, has an attractive silvery color.

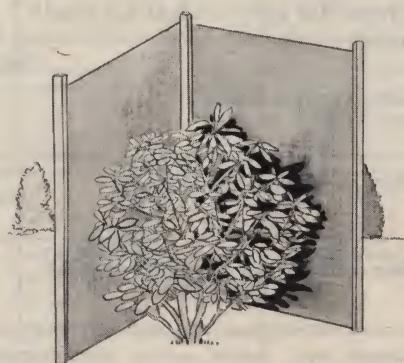
Arbor vitae, like cedar, furnishes the flat evergreen branch found in flower arrangements at Christmas. It is an ornamental tree of many varieties, and is best located in moist protected places. Untrimmed, it is a broad

pyramid, 35 to 50 feet tall, but it shears to any size or shape.

The juniper family is useful in planting, in tall forms such as the formal columnar juniper and the upright juniper, and as a spreading evergreen—the remarkable Pfitzer juniper—for banks, ground cover and edgings. The green feathery foliage grows rapidly; can stand crowding. Height at maturity is 8 feet, spread up to 12. Ground-covering junipers include prostrate, Sargent, Waukegan and creeping varieties.

Another evergreen with feathery foliage is the hemlock. The Canadian hemlock can be sheared in a symmetrical manner. Hemlock is most effective when planted in a grove with others.

Yew, with its thick glossy needles and dense, upward-reaching branches, is useful as both shrub and tree, growing well in sun and shade. Try using it not in the



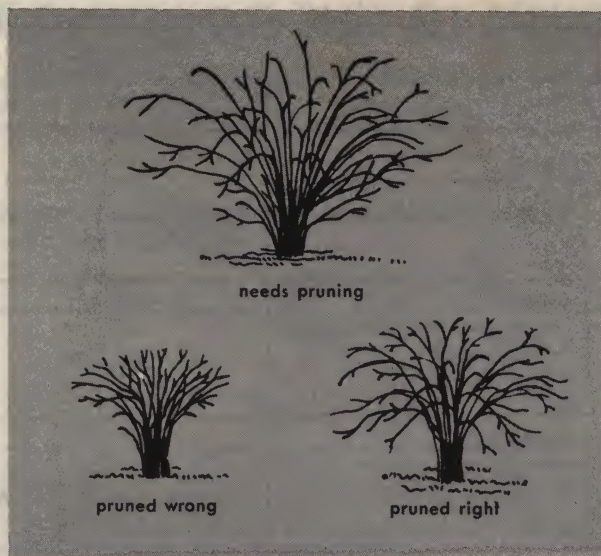
Burlap and stakes screen rhododendron in winter.

usual manner—as foundation planting only—but as a single handsome specimen against a wall of the garden. The low-spreading bushy dwarf yew can be clipped well. Other varieties are upright yew and Japanese yew, a tapering or conical tree or shrub used for hedges.

Care of Evergreens

Evergreens tend to be adversely affected by hot, dry summer weather and should be watered every 10 to 14 days at this time. Be sure the water reaches the deep-root growth, at last 6 inches deep. A mulch of grass

The out-of-doors is playing an increasing role in living enjoyment. To exploit the beauty of these grounds, the natural pond has been stocked with goldfish and several furniture groupings placed at strategic points around it. A tea house affords a table spot sheltered from sun and wind.



Good pruning removes dead branches at center.

clippings or peat moss will also protect the tree from loss of water in dry weather.

Pruning in late spring before new buds appear seems to help an evergreen thrive. Prune so that the inner branches can develop and the tree or shrub is more compact. Formal trees can be kept trim, with no ragged branches sticking out, and badly shaped or deformed trees can be corrected through shaping.

Evergreens are susceptible to "winterburn" from too much wind and winter sun, so that they dry up and their branches crack under the weight of snow or the force of wind. A precaution is to water them deeply before the ground freezes in the late fall. They may also be protected in winter by screens of burlap or straw mats. Where wind and winter sun are not too strong, shielding only on the sunny side is necessary. Burlap boxes or covers should be well ventilated. Thin, tall shrubs or small evergreen trees may be tied with strips of cloth, so that the branches will not crack. Old trees with heavy limbs may be propped with boards to prevent breakage under heavy snow or ice.



GUIDE TO FINE-FLOWERING TREES

Type	Flower and Fruit	Other Facts	Ht.
ASH			
European Mountain	White flower; clustered orange berries summer and fall.	Erect; deep green foliage; grows in most soils.	25 ft.
CATALPA			
Western	Showy white flower.	Hardy; rapid growing; stands heat, drought.	65 ft.
CRABAPPLE			
Almey Flowering Crab	Crimson bloom with white, maroon fruit lasts all winter.	Erect tree; sturdy; blooms earliest of the crabs.	12 ft.
Bechtel's Flowering Crab	Large, fragrant, light-pink flower; purple fruit.	Pyramidal shape; ideal for small lawns.	15 ft.
Hopa Flowering Crab	Fragrant, deep-rose bloom; tiny red apples.	Erect; purple foliage.	15 ft.
Japanese Flowering Crab	Rose-pink blossom; orange fruit in fall.	Very attractive in bloom.	20 ft.
Purple-Leaf Flowering Crab	Wine-red flower; deep red fruit lasts all winter; good jelly.	Bronze foliage turns bright red in fall.	12 ft.
Red Flowering Crab	Single carmine buds; white blossom turns pink; small blood-red fruit.	Round top; stands severe winters, droughts.	18 ft.
White Flowering Crab	White lasting flowers; red-skin fruit; good jelly.	Erect; successful in North; hardy, disease-free.	20 ft.
CHERRY			
Black	White flower; large, purplish, juicy cherry.	Massive tree; attains great age.	100 ft.
Nanking	White blossom; light red fruit.	Bushy.	10 ft.
Oriental	Bright rose-pink flower.	Erect.	25 ft.
DOGWOOD			
Chinese	White flower.	Heavy foliage.	25 ft.
Red	Red flower.	Heavy foliage; year-round beauty.	20 ft.
White	Open white flower; clusters of red berries.	Red leaves in fall; pyramidal spreading shape.	20 ft.
GOLDEN CHAIN			
	Long clusters yellow berries, 18 in. long; 6 or 8 on single twig.	Erect; bright clover-like leaves.	30 ft.

GUIDE TO FINE-FLOWERING TREES

Type	Flower and Fruit	Other Facts	Ht.
HAWTHORN	Dense clusters of creamy white flowers; scarlet berry clusters until winter.	Glossy broad leaves are red-orange in fall.	20 ft.
HORSECHESTNUT	Pink to red flowers.	Beautiful tree.	60 ft.
Red			
JUDAS TREE	Dense rosy-lavender flowers.	Heart-shaped, dark green foliage; in North, plant in sheltered place.	25 ft.
Redbud			
LINDEN	Waxy, creamy white flowers.	Rapid grower.	
LOCUST	White pea blossoms.	Erect; picturesque.	30 ft.
Thornless Honey or White			
MAGNOLIA	Early spring flowers; 6 in. blooms, white inside and rosy-violet outside.	Upright, round; deep green waxy foliage; very hardy.	14 ft.
<i>M. soulangeana</i>			
Star	White flower; small fruit.	Early blooming; spreading.	14 ft.
PEACH	Deep rose flower; small red peaches.	Bright red foliage in spring; deep maroon in fall.	20 ft.
Red-Leaf			
PLUM	White flower; purple fruit, good jelly.	Withstands strong winds; grows at beach in sandy soil.	8 ft.
Beach			
PURPLE FRINGE	Hairlike flowers cover whole surface; looks like cloud of smoke.	Spreading; needs space, sunshine; shiny green foliage.	12 ft.
Smoke Tree			
SILVERBELL	Dainty, open white flower; 4-winged dry fruit.		30 ft.

Shrubs, Hedges, Vines and Roses



IN general, trees and shrubs are planted and cared for in the same way, the difference between them being chiefly one of height. One definition of the difference, however, is that while a tree has only one trunk, a shrub has several stems or trunks.

Not so long ago the number of reliable shrubs was quite limited, but today the many new hybrids have lengthened the list and the gardener's choice is almost endless. No matter the region, it is now possible to plant shrubs that will satisfy color needs, bloom at various seasons, cover bare spots where grass won't grow, or grow in such profusion and depth that screening purposes are served.

Shrubs are valuable to the gardener because they bridge the gap between trees and flowers. As do trees, they serve as boundary markers, soften the lines of buildings, act as a decorative background for flower beds and hide unsightly views. Like flowers, they add character and shape to the garden, blooming forth with colorful blossoms and attracting birds with their berries. One big item in their favor is that they mature rapidly, yet remain as hardy and long-lived as trees.

Planting and Care

Planting of shrubs is little different from planting of trees. Early spring is the most favorable time since it gives the plant a long spell of good growing weather to get re-established. In the milder sections of the coun-

try, however, transplanting may be done through the winter months. In New England, evergreens may be planted in September and May, and deciduous shrubs in October and May.

Dry roots are the chief cause of planting failures, and steps should be taken to prevent this—i.e., balling and burlapping, and heeling in. After receiving shrubs from a nursery, water as soon as possible; shade them from sunshine at first, mulch the ground around them, and prune back severely. The older the plant you get, the more severely it will have to be cut back, so that in the long run, you come out just as well buying the less expensive, smaller shrubs. Forsythia and azalea may be moved while in flower, but most plants should not.

Watering in the fall, before the ground freezes, is important for box, azalea, rhododendron, mountain laurel and broadleaf evergreens, whose leaves lose moisture in winter.

Pruning of shrubs helps to keep them young and vigorous. Rather than cutting all branches off to an even length, prune out the older branches, even though they may be sound. With lilacs, for example, use a keyhole saw, and cut as close to the ground as possible, cutting out the oldest stems. Some shrubs need pruning every year, especially those which have dead branches as a result of winterkill. (These include some deutzias, hydrangeas, buddleia, spireas and privets.) Other shrubs such as rhododendron, azaleas, magnolia and buddleia should have the flower heads pruned off after blooming.



Fence, trees and shrubbery offer privacy for this rear lawn.

Types of Shrubs

Among the bewildering lists of shrubs, certain names stand out as new and unusual, or, on the other hand, tried and familiar. These include both the evergreen and deciduous types.

Rhododendron and azaleas (a type of rhododendron) head the list of evergreens with some 700 species. Hardy and long-lived, these ornamental woody plants have flowers of all shapes, colors and tints. Well-liked are the pink pearl, and the *Rhododendron maximum*, with its large pinkish flowers. Hardy hybrid species also are the *Boule de neige* (white); the Abraham Lincoln and Lady Armstrong (pink); the *Everestianum* (purple); and the *Caractacus* (red). Rhododendrons won't grow in limey soil, and humus should be supplied liberally to protect them from winterburn.

Azaleas thrive under the same conditions as rhododendrons—that is, in partial shade—and like rhododendrons in general may be used for foundation planting; they do well in thin woodlands. The *Azalea malus* has flowers in pastel shades of orange, yellow and tan.

Boxwood has been a well-loved shrub for generations, especially where winters are not so severe. This evergreen can be pruned to formal rounded shapes. Left to

grow, it sometimes attains 20 feet. It is used as a shrub for paths and walks.

Euonymus patens is an evergreen shrub that is hardy. It has glossy green leaves and red berries. Some of the evergreen holly shrubs, such as Japanese holly, or inkberry, are popular. Japanese holly resembles boxwood.

Laurel is another familiar evergreen shrub, valuable for foundation planting. American mountain laurel bears clusters of pink flowers in spring.

Pachysandra (Japanese spurge) is a dense evergreen ground cover for places where grass won't grow.

Among the deciduous shrubs, lilac is probably one of the best liked. If you buy lilac be sure that it is grafted either on its own stock or on privet stock. Plant lilac as early as the soil can be worked. The common lilac, which has light purple flowers and reaches a height of about 10 feet, is the best known. There are several hundred varieties, in white, pinkish-lilac, reddish-lilac and bluish-lilac.

Buddleia, the butterfly bush, is 16 feet or more if not killed back by winter, and gets its name from the fact that in the summer, butterflies are always seen around it. The buddleia takes many forms: as a small-leaved shrub with small purple flowers; as fascinating, a cattleya-pink bush; as flaming violet, a brilliant purple, and as white profusion, a dwarf variety with pure white flowers. Also the Empire blue shrub, the dubonnet, the red glory and white cloud.

Flowering quince (*Cydonia*) has roselike flowers and a scarlet bloom in spring. Japanese quince grows to 6 feet; has orange-scarlet flowers.



Retaining wall and evergreen shrubbery for semi-formal front planting.



A post-and-rail fence sets off your home. It is a perfect foil for ramblers, shrubs or flowers. It gives an air of dignity and privacy to any style home.

Deutzia is an easily grown shrub, pleasing for the many small flowers in spring. Types include the 2- to 3-foot pink deutzia, with its delicate flowers; the pride of Rochester, with large double white flowers, and *Deutzia Lemoinei*, which has large, pure white flowers.

Other shrubs are the dwarf buckeye, which blossoms in July with 12-inch spikes; the chokeberry bush, liked for its decorative fruit; broom, which grows in sandy places and blooms in June and July, and witch hazel,

a shrub that grows to 20 feet and has spidery yellow flowers.

Forsythia is a welcome shrub because it needs little care; with its drooping sprays of yellow flowers, it is useful for softening the lines of walls.

Hibiscus blooms in August, a rarity, with flowers that are large and purple, or rose-pink or white. It grows to 12 feet if unpruned. Hydrangea, another shrub with large blossoms blooming in July and August, is a showy bush, with big blue globe-shaped clusters.

Honeysuckle bushes are useful for mass planting. Some varieties are especially enjoyable because they blossom in February and March.

Several spirea varieties are found to be useful as screen plantings, particularly because of their dense growth and abundant flowering. Anthony Waterer spirea is a 2-foot bush with white or rose-pink clusters. Bridal wreath has profuse white clusters in May. *Spirea Thunbergii* also has white flowers, and *Spirea Vanhouttei*, 8 feet high with dense white flowers, is used as a living fence.

Viburnum (the popular snowball) is 10 to 12 feet high at maturity and is used for high foundation, screening and hedges. It has white snowball-shaped flowers and foliage turns crimson in fall.

Weigela is popular, too, in many varieties, including the variegated weigela, a dwarf shrub with rose flowers and variegated silvery leaf. There is also *Weigela rosea*, with rosy trumpet-shaped flowers, and the new brilliant cardinal shrub.

Hedges

A hedge that is well kept and attractive can do much for your grounds. Used in the front of the house and on



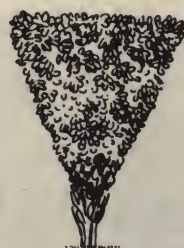
Unightly street scenes can be fenced out in a subtle way by combining materials. Planting, stone, and bamboo rise to effective height on this front property line without seeming overbearing.



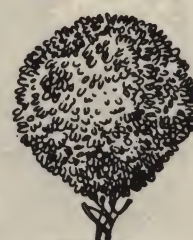
A



B



C



D

Keep hedge top round as B. A holds snow. C and D are bad; sun can't reach bottom.

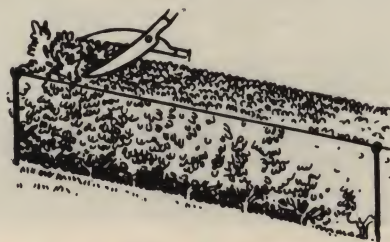
the sides of your lot, hedges are a barrier against traffic, noise and all things unsightly; at the same time they enhance the proportions and general appearance of your house and lawns. And within the boundaries of your property, hedges define paths and walks, demarcate various areas, and help to screen service areas and vegetable gardens.

The plant materials generally used for hedges are mentioned elsewhere in this book. They include the tall background hedges of holly, thorn or wattle; the informal flowering hedges of rose, bridal wreath spirea or barberry; such evergreens as mugho pine, globe arbor vitae, box or eunonymus (most of which are used as low edgings) and the colorful fruit-and-nut hedges of thorn apple, hazelnut, cherry, beach plum, cranberry and quince. And, of course, there are the formal clipped hedges. Of these, the Amur privet is by far the most widely used. In fact, the privet is used so universally that it is original to choose any of the above for hedging.

How to Plant Hedges

Hedge shrubs must be planted in the same manner as any other shrub, with soil preparation all-important to the continued life of the plant. The main consideration here is the spacing and planning of the plants in relationship to each other.

One way to get a straight hedge is to dig a trench the length of your intended hedge, with one side straight and your plants set against this straight wall. The depth of the plant depends on what you are planting, but



Line helps in straight hedge shearing.

privet may be set 3 inches deeper than it was before being transplanted.

How far apart the hedge shrubs are set again depends on what shrub it is, as some hedging materials are spreading and bushy. Privet is usually set 1 foot apart; barberry, 9 inches to 1 foot; larger shrubs, 2 to 4 feet.

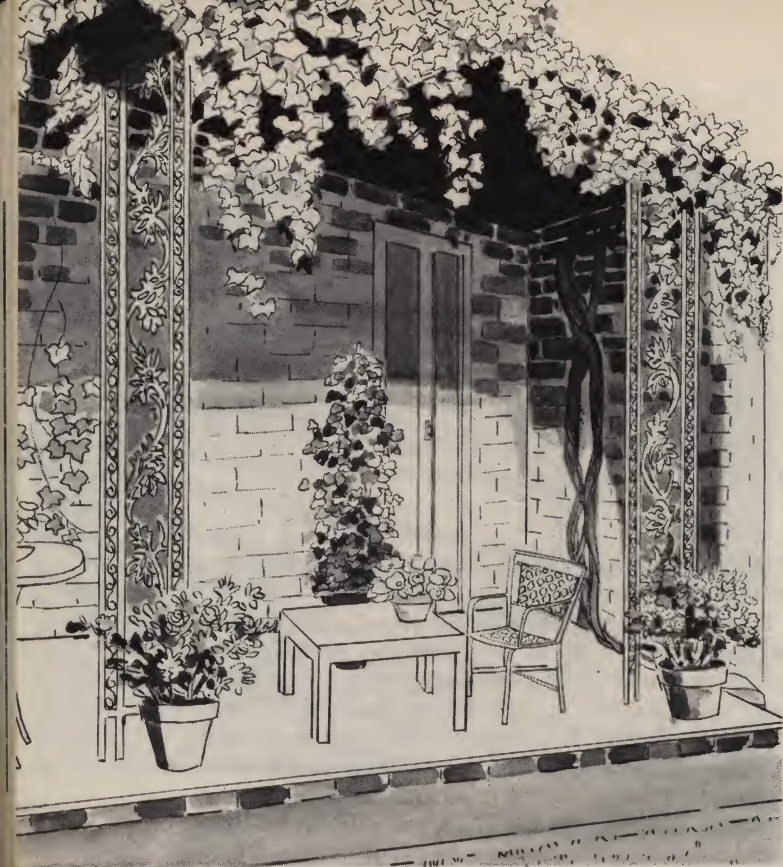
The way hedges are trimmed has much to do with their health. While a flat top is neat looking, it is easily damaged by snow and ice accumulating on top. A rounded top is better, therefore, for northern winters. And hedges should be trimmed to slope outward from top to bottom so that the leaves on the bottom also get sun.



Vines

Vines can be the quick salvation of the new home owner. Fast-paced annuals will twine up a hastily erected pergola almost before summer starts, providing a cool, fragrant and beautiful awning. Annuals and perennials (or *hardy* vines, as perennials are called) are an inexpensive way of softening the lines of new buildings, linking them to the landscape. Decorative and functional, vines are often the answer for older homes as well, the ground-covering varieties serving as cover for foundations and banks, others spreading a carpet of flowering greenery over walls, making fences seem friendlier and stone buildings less harsh.

The methods by which vines climb will necessarily influence and determine your selection. Some vines, such



Vine-covered terrace with decorative grill work and gay potted plants.

as grape vine, have tendrils which reach out and grasp small objects to hold on to; these vines need a lattice or fence. Others, such as Boston ivy, have adhesive discs that fasten on to a brick or stone wall, and still others, such as the climbing hydrangea, hold to a masonry wall with small, aerial rootlets. Finally, there are those that climb by twining around other branches or poles, climbing from left to right, or right to left (like honeysuckle). This type can be parasitic in the worst sense, climbing over small bushes and trees and completely strangling them.

No vine should be unsupported, however, and attractive vines are those which are carefully trained and held up. Supports such as arbors, trellises and pergolas need not be elaborately constructed, since their function is to display the vine, not themselves. Wood or other material that does not require painting is ideal, for the natural woods are really more suitable as a background for vines than are the painted ones. If you have a wooden house and want vines on the walls, it is a good idea to construct a detachable trellis, hinged at the bottom so that it can swing outward when painting is going on. There will be sufficient flexibility in the tendrils to allow this.

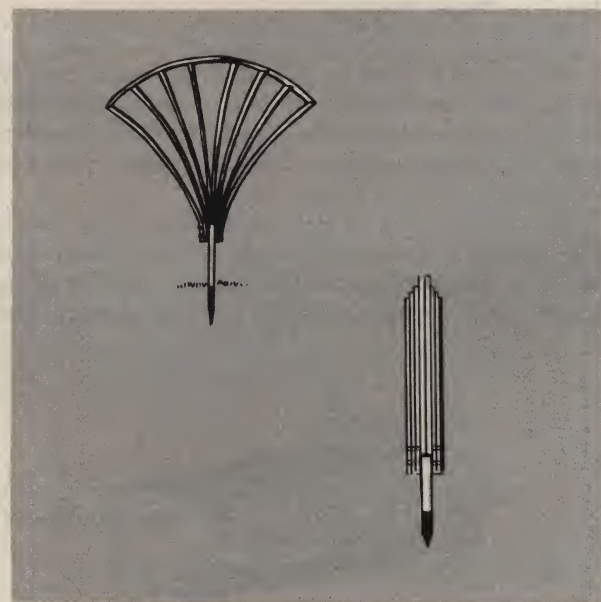
Planting Vines

If you are planting annuals, ordinary digging in well-drained soil should suffice. But if you are planting perennials, you will want to plant them as well as any shrub;

remember that if they are planted close to the foundation, the soil may be poor initially and may need preparation. The hole should be at least 2 feet square. Break up the bottom soil and mix in bone meal, peat moss, etc. If you are planting near the house, be careful to place the vine far enough from the overhanging eaves so that water will not drip on the leaves. In winter weather, wet leaves can freeze in the evening and crack. Also, if the vines are placed against a sunny wall they will get reflective heat, and so they should receive extra watering in hot weather.

Vines Where You Need Them

For covering walls of houses, boulders, stone walls, etc., the ivies are, of course, used more than other vines. Boston ivy is the quickest growing. Japanese bittersweet (*Euonymus radicans*) is a good vine for walls, too; evergreen, it grows well on the north sides of buildings as well as on exposed locations. Wintercreeper, in both large and small-leaved varieties, is a hardy vine for wall planting, and other vines that can cling without aid to concrete, brick and stone include Chinese trumpet-creeper, English ivy, Lowe ivy and Virginia creeper, sometimes called woodbine or American ivy. Virginia creeper is the ivy that twines around trees and covers the ground in woodlands, and while it makes a good building cover, it does become heavy and require thinning out as it grows older. Virginia creeper is also effective for providing shade. (Other shade-producing vines are grape, Dutchman's pipe and silver vine.)



Fan trellis made from 53" of $\frac{3}{8}$ " lattice stock cut to lengths — 2 pieces 4'6"; 2 pieces 4'11"; 2 pieces, 4'10" long; 2 pieces, 4'9" long. Assemble lattice as shown, with 4'9" pieces on outside. Drill holes through assembly, one passing through 18" long sharpened stake, and fasten with bolts. Cut final lattice piece to topspread fan.

Many vines which are not self-supporting can be trellis-trained, and can add color and beauty to a house. Among the more showy varieties are wisteria, with its clusters of white to purple blossoms; clematis, which has a large flower appearing from early summer until fall; and trumpet creeper, with its tropical-looking clusters of big scarlet and orange flowers during late summer. There is also trumpet honeysuckle, which has clusters of red and yellow perfumed flowers; and climbing hydrangea, with its large white clusters. Some of the annual vines, such as the hyacinth bean which grows on strings and has many flowers, or the scarlet runner bean which has showy flowers, are good for shade, too.

For covering banks and ground where you have difficulty with grass, you might try periwinkle (also called running myrtle), an evergreen which has blue flowers all summer. Another evergreen is pachysandra, mentioned elsewhere; and there is moneywort which flattens against the ground.

Some attractive and fragrant-blossoming annuals that you might also consider are: nasturtium; balloon vine, which is good to cover fences; cypress vine, with a large number of small star-shaped flowers in orange, red and white, and the familiar morning-glory and moonflower plants.



Rambling roses used for door ornament
as well as along fence.



Tree rose, Diamond Jubilee, provides unusual display.

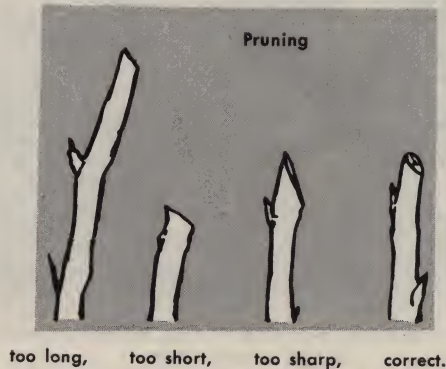
Roses

If you enjoy roses, you can use them functionally as well as decoratively around your grounds—as creepers, shrubs, vines, climbers, hedges or just as beds of pure color. Rose originators are enthusiastic and tireless, and every year new favorites appear. Most recently the headliners were the bright floribunda rose, Jiminy Cricket; the soft, pure-pink hybrid tea rose, Queen Elizabeth; the bright yellow peace rose. There are over 5,000 varieties of roses in the United States, and once you start growing your own you are apt to change your preferences from season to season.

In selecting roses, it is important to get healthy plants. Stems should be green and unshriveled, roots moist and partly fibrous. The most expensive rose is not always the best rose; it may be only a newcomer, much discussed and, therefore, a favorite.

In general, there are two types of roses: bush roses (similar to shrubs) and climbers (producing canes that require some sort of support). In the bush classification, the predominant type is the hybrid tea; it accounts for

over 60% of all roses grown in America. The other major bush types are the polyanthas (roses in large clusters), the floribundas (large-flowered polyanthas), and the hybrid perpetuals (vigorous growers with a great crop in June and continuous blooming throughout the summer). The climbers include rambles, whose long pliant canes have large clusters of small roses that can be used for covering walls, fences and banks. The climbers also are pillar roses, adapted to growing near buildings and on posts and the climbing hybrid tree.

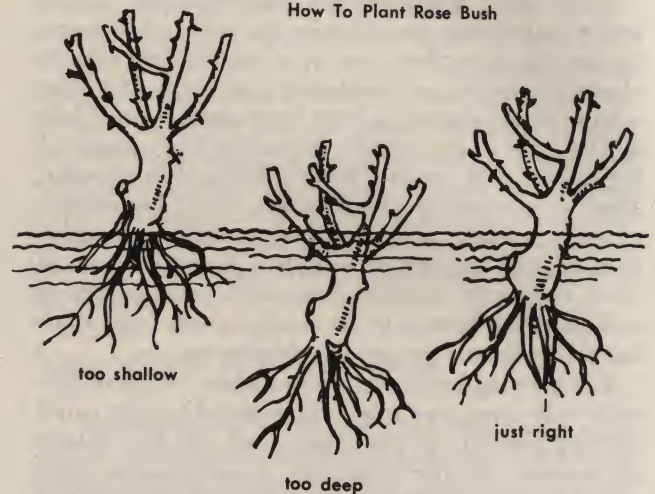


Planting Roses

For planting roses a good garden loam with organic matter is important. It must contain peat moss, leaf mold, compost, rotted or commercial manure, and the bed should be prepared as far ahead of planting as is feasible in order to allow for settling of the soil.

Fall is the best time for setting out roses, but you can plant in spring. When they arrive from the nursery, plant at once. If they have dried en route, soak the roots and put the tops in a bucket of water before planting. Trim back any roots that are weak, long or broken at this time. Dig a hole that is wide enough to allow the roots to spread without crowding. The rose is properly placed when the bud (the point where the top joins the roots)

How To Plant Rose Bush



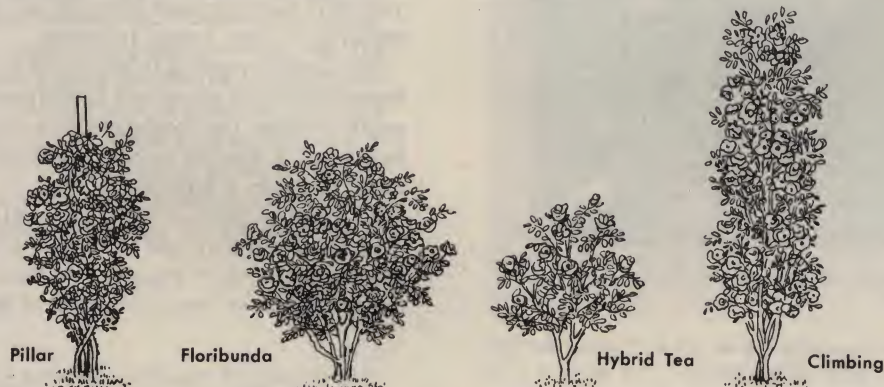
is just under the ground surface. Space hybrid teas about 18 inches apart in any direction. Prune the branches 6 to 10 inches from the soil.

To grow good roses it is necessary to cultivate, to prune and to spray. If you have a well-cultivated bed you need not worry about watering. But if you start to water in hot weather, you must keep it up, soaking the roots thoroughly about once a week.

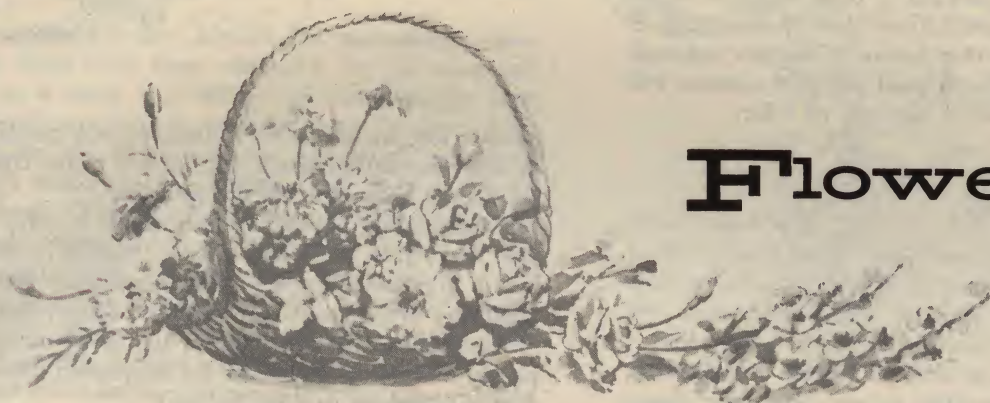
Spraying every 10 days guards against the diseases and insects that attack roses. Nicotine sulphate wipes out the green lice; arsenate of lead is used against chewing insects; or sulphur and arsenate of lead may be used in a dust, as may DDT dust.

Winterize your roses by mounding sod around them after the first frost, or mulch with straw and evergreens. In cold parts of the country, remove the supports from the climbing roses and place the canes on the ground, peg them, and cover with soil mounds.

In spring, cut back your roses to within 6 inches of the ground. Ruthlessly lop off all but three or four canes on hybrid teas. This pruning will give you strong plants. When your plants grow out from spring pruning, you will have to disbud, cutting off all the buds except the top ones on the cane. This is the way to grow large blossoms.



Popular roses, each with many varieties.



Flowers

THE loveliness of flowering plants needs little embellishment by description. Certainly every gardener seeks the beauty and color that can be brought to his grounds by a variety of flowers. The proper arrangement of flower beds in your garden and attentive care to them can insure you a continuing bloom of lovely flowers year after year. For with planning, it is possible to maintain flowers in your garden during the entire length of the growing season. Borders and beds are planted with flowering annuals and perennials which bloom at different periods during the year. By choosing carefully initially, and by caring for the flowers thereafter, the blooms will overlap each other, so that there will never be a period when an old bloom disappears but that a new one will start to show its color.

Soil Requirements

Preparing the soil for flower beds or borders requires greater care than planting a lawn. For one thing, digging must be deeper. It is not too much to dig the bed 2 feet deep, although 1½ feet is suitable. It is, of course, possible to grow flowers in a shallower bed than this, but the deeper you dig, the better your production will be. All heavy lumps should be broken up. It is a good idea to spread some sand, cinders or ashes in the bottom soil to break it up. Also, you might work manure, well-rotted compost, grass clippings or peat moss into the bottom. Do not firm the bottom soil down, but let it settle naturally.

Good loam should be used for the topsoil—e.g., well-rotted manure, humus, peat moss, well-sifted leaf mold or heavy sand. Wood ashes are fine for spring, and lime may be used for loosening the soil. You might think about the character of your soil and consider the par-

ticular fertilizer which contains the elements your soil needs most. Should you use manure, be careful not to let it touch the roots of plants.

Flower Beds and Borders

The problems of color should be kept in mind when planning flower borders and beds, so that while there is sufficient contrast in texture and color of the flowers, there is at the same time an attractive blending. A plan for a bed of annuals, for example, might be designed to stress zinnias, with contrast provided by such softer flowers as chrysanthemum, scabiosa, nasturtium, cosmos and candytuft.

Siting of the flower bed is important. Ideally, it should be close to the house, facing south or southwest. Any location that gets good sun, however, will produce well.

The border should be located away from trees or shrubs. These plants absorb more than their share of moisture and nutrients from the soil and, because of their strength, can overpower the more delicate flowering plants. A good background such as a stone wall or a fence adds to the beauty of a flower bed or border, and evergreen shrubs make a pleasing backdrop.

Edgings need not be restricted, as they so often are, to one color (e.g., the white of alyssum). Coral bells, whose lovely foliage makes a handsome edge, are an all-season flowering plant, and they provide unusual cut flowers. Baby pansies, violas, portulaca, ageratum, dwarf double nasturtium and dwarf marigolds are multi-colored flowers.

Annuals

An annual, from the point of view of the amateur gardener, is any plant which must be replaced each year and which flowers only once in its life. Annuals

generally are grown from seed. The chief advantage of annuals over perennials is their low cost. Thousands of plants can be grown from a single packet of seeds.

Annuals are also very decorative, and provide the best source of flowers for cutting. Their season of bloom is relatively long, as well. Their chief disadvantage is the late date at which they bloom. If annuals are used alone in a bed or border, a good part of the season will pass with little to show in the way of color.



Ageratum



Sweet Alyssum

Annuals are also of use as a filler between shrubs set some distance apart. This permits the shrub to grow, yet prevents too stark an appearance.

The sowing of annuals, of course, depends upon the class to which they belong. The hardier flowers, such as larkspur, poppies and cornflowers, can be profitably planted in late fall. The ground preparation must be just as careful as for spring planting. Planting in fall is advantageous since it permits the flowers to get an early start the following spring. Certain other hardy annuals can be planted early in spring as soon as the ground is workable.

It is a good idea to start some of the less hardy annuals in seed pots, or in coldframes, as early as March. Otherwise, these plants cannot be set out until all danger of frost is gone. Outdoor planting of annuals in the spring follows thorough soil preparation. The seedbed must be carefully pulverized with a rake after it has been prepared and prior to planting. Eliminate all lumps.

The seeds are sown broadcast in the patch selected, and then are lightly covered with soil. The soil may be gently tamped after the covering is completed. The patch should be identified with a stake and some sort of sign. Flower seeds are best planted near the surface. In no case should they be sown more than 1 inch deep. The seeds of larger plants which have a strong growth, such as sunflowers, can be planted in hills spaced from 2 to 4 feet apart.

Often, annuals are planted in rows. This method is used when a cutting garden is being grown. To do this, dig a shallow trench not more than 1 inch deep with a trowel, or your fingers, and then place the seed in the trench. Sow more seed than appears necessary, and then trim out after the plants appear above ground. Thinning is required in any event, for a good crop of annuals, if only to insure sufficient room for each plant.

Transplanting is a considerable shock in the life of a plant, and unless it is carefully done, the plant will die. It is a good idea to expose coldframes and potted



Nasturtium



Gaillardia

seeds to the outside air for a time before transplanting, in order to prevent shock. All the soil in the frame or pot should be used when transplanting.

Transplanting should be done on a cloudy, damp day, if possible. If the soil is dry, it should be watered before transplanting, and then thoroughly after the plants are in the ground. If the day is sunny, some sort of shade should be provided for the newly transferred plants. As soon as the plants are established, these protective coverings can be removed.



Biennials

Biennials are generally very beautiful plants, with most attractive flowers. They are somewhat more trouble for the gardener, since they keep growing during their first year and do not bloom until the second. Their great advantage is that their seeding stage produces new plants which will bloom again two years later, making it unnecessary to plant additional seeds.

The biennials are usually planted in early summer and transplanted to good soil when they are large enough to handle. It is a good idea to pot them at this time, particularly in areas where plants cannot be left outdoors all winter. In some cases, they can be transplanted to a coldframe, and then placed in the flower bed the following spring.

The requirements of careful soil preparation apply to biennials as well as annuals. After planting, if you want a continuous new growth of plants, it is best not to weed and cultivate too assiduously. If a really fastidious biennial patch is planted, it will be necessary to replace the plants with new ones each year.

Perennials

Perennials are the basic flowers of any garden. Each year they die and renew themselves for the next growing season. They are long-lived and last for many seasons.

Perennials are also, historically, among our oldest plants. They have been cultivated for centuries and often, as a result of breeding and crossbreeding, bear no resemblance to their wild forebears. In some of the perennials, the blossoms have become so specialized through centuries of cultivation that they no longer grow seeds. Other perennials are continually being developed by amateur botanists and gardeners. As a result of this cultivation and inbreeding, perennials as a rule are not as hardy as other varieties. Another disadvantage is the tendency of certain perennials to die down after flowering, thereby leaving gaps in the garden.

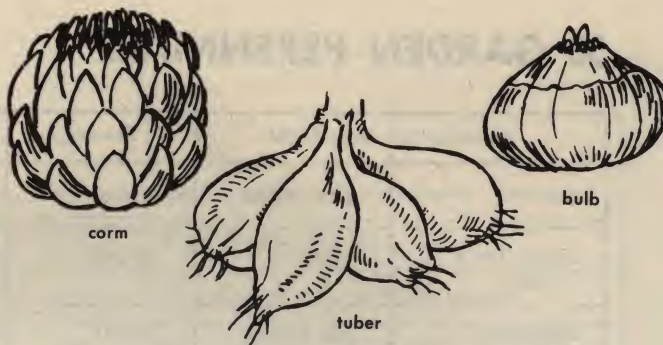
There are a number of ways to solve the problems of short-flowering periods and the resultant unsightly spaces. One way is to intersperse perennials with annuals and other bulbs and flowering plants whose bloom occurs either later or earlier than that of the perennials.

Some perennials are easy to transplant: chrysanthemums, for example, can be moved from one place to another with no noticeable effect on their vigor. This is another way to keep color and bloom throughout the growing season.

A garden of perennials, either by themselves or mixed with annuals and other bulbs, should be placed along a path, or as a border, with a background of trees, shrubs, a wall or fence. The background shows the brilliant coloring to best advantage. Some varieties can flourish in the shade, such as anemone, lily of the valley, day lilies, sweet pea, primrose, hollyhock, harebell and peonies, but these flowers must be chosen carefully and faced so that some sun reaches them every day.

Bulbs, tubers and corms

Bulbs are the fleshy underground protuberances of leaves, stems or roots. Actually, "bulb" is a generic term, and some of these underground protuberances,



all of which will grow into full plants, are more correctly called "corms" or "tubers." Tubers are thickened stem sections, covered with modified buds; corms are also underground stem sections, but without the bud.

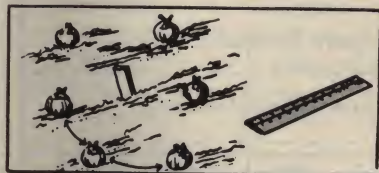
Some of the loveliest flowers are bulbs, and gardeners rely on them heavily because they bloom in such profusion with little care or cultivation. They are among the first blooms of early spring, with the diminutive snowdrop, for example, appearing in early March.

Planting Bulbs

Bulbs should be planted from 3 to 6 inches deep, and, as a rule of thumb, the larger the bulb, the deeper it should be planted. (Both tubers and corms are treated similar to bulbs.) Using a spade, a slice is dug in the soil to the required depth, the bulbs placed in the hole and the sod replaced. If the soil is poor, a sprinkling of bone meal is added and mixed with the soil at the bottom of the hole.

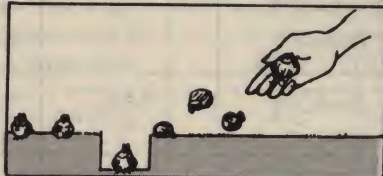
Each spring, flowering bulbs should be well-fertilized. (Use manure and chemical fertilizer.) Care must be taken to keep fresh manure away from the roots or the bulb or tuber itself. The fertilizer should be worked well into the soil. The soil itself should be cultivated to a depth of 3 to 4 inches each week. During the blooming season, it is a good idea to cut off most of the buds to get bigger and showier flowers. Watering regularly is essential, and when the soil gets too dry, punching a few holes in it around the plant will help get the much-needed moisture down near the roots.

A—Plant tulips 5" apart around stake.



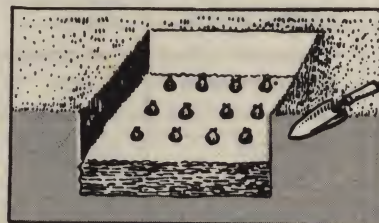
Tulip

B—Plant some bulbs where they fall when thrown for natural look.



Crocus or Snowdrop

C—Plant bulbs in bed for even bloom.



Narcissus

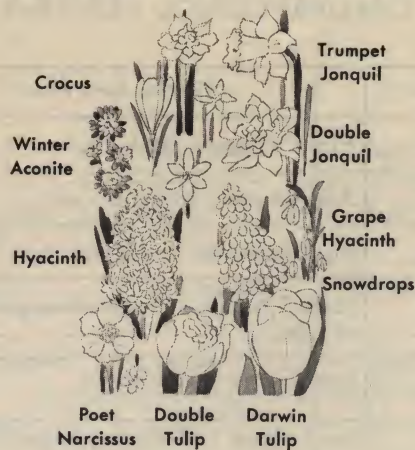
prepare bed for even bloom

50 GARDEN PERENNIALS

Name	Color	Season	Height	Planting Remarks
ACONITE	blue, white	June	2 ft.	Plant 6 in. apart. Shade tolerant
ALPINE ROCK CRESS	white	April	1 ft.	Plant 9 in. apart. Spreads widely.
AMERICAN COLUMBINE	red, yellow	April	1½ ft.	Plant 1 ft. apart. Self-sowing.
AMUR ADONIS	yellow	April	1 ft.	Plant 1 ft. apart. Shade tolerant.
ANEMONE	rose	Aug.-Sept.	1 ft.	Plant 1 ft. apart, in partial shade.
AZURE MONKSHOOD	blue	Sept.-Oct.	3 ft.	Plant 9 in. apart. Shade tolerant.
BABY'S BREATH	white	June-July	2½ ft.	Plant 3 ft. apart. Drain soil well.
BEAR'S BREECH	lilac, rose	July-Aug.	3 ft.	Needs lots of sun and good drainage.
BLOOD PINK	scarlet	July	1¼ ft.	Plant 6 in. apart. Usually spreads.
BLUE PHLOX	lavender	May	1 ft.	Plant 9 in. apart. Grows wild.
BUTTERFLY WEED	orange	July-Aug.	2 ft.	Plant 1 ft. apart, in dry, sunny areas.
CANYON POPPY	white	June	4 ft.	A large poppy. Plant well apart.
CARDINAL LARKSPUR	scarlet	August	3 ft.	Plant 1 ft. apart. A rather delicate plant.
CARPATHIAN BELLFLOWER	blue, white	June-Oct.	8 in.	Plant 1 ft. apart. Self-sowing.
CELANDINE POPPY	yellow	May	2 ft.	Plant well apart.
CHEDDAR PINK	various	June		Plant 9 in. apart. A spreading plant.
COLORADO COLUMBINE	blue and white	April	1½ ft.	Plant 1 ft. apart. Self-sowing.
CYPRESS SPURGE	yellow	June	1 ft.	Plant 9 in. apart. Good foliage.
DANES' BLOOD	violet	July-Aug.	1¼ ft.	Plant 9 in. apart.
DAVID'S ASTILBE	rose	June-July	5 ft.	Plant 1½ ft. apart in moist soil.
DRAGON'S HEAD	purple	June-July	2 ft.	Plant 9 in. apart. Resembles Mint.
DROPMORE BUGLOSS	deep blue	June-July	3-5 ft.	Plant 3 ft. apart. Shade tolerant.
DWARF PINK RAY	boltonia pink	September	2 ft.	One of the best perennials. Plant 1 ft. apart.

50 GARDEN PERENNIALS

Name	Color	Season	Height	Planting Remarks
EARLY BUGLOSS	blue	May-June	1½ ft.	Plant 1 ft. apart. Shade tolerant.
EARLY TORCH LILY	yellow	Aug.-Sept.	1½ ft.	A showy plant. Set 1½ ft. apart.
ENGLISH PRIMROSE	various	April-May	6 in.	Good in most soil and in cool spots.
FORGET-ME-NOT	deep blue	June	9 in.	Plant 1 ft. apart. A spreading plant. Very popular.
FOXGLOVE PENSTEMON	purple	June-July	3 ft.	Easy to grow in woodsy soil.
FRINGED BLEEDING HEART	rose	May-Sept.	1½ ft.	Good edging. Grows in partial shade.
GLOBE CENTAUREA	yellow	July	1½ ft.	Plant 1½ ft. apart.
GOATSBEARD	cream	June-July	5 ft.	Plant 2 ft. apart.
GOLDEN COLUMBINE	yellow	May-Aug.	2 ft.	Plant 1 ft. apart.
GOLDEN GLOW	orange	July-Sept.	5 ft.	A spreading plant.
GOLDENTUFT	yellow	May	1½ ft.	Plant 1 ft. apart.
GRASS PINK	rose	June	8 in.	Plant 9 in. apart.
IBERIAN GERANIUM	blue, white	June	1 ft.	Plant 9 in. apart.
ICELAND POPPY	yellow, orange	June-Oct.	1 ft.	Short-lived. Excellent for cuttings.
JAPANESE PRIMROSE	white to crimson	June	2 ft.	Plant 1 ft. apart. Moist soil, cool spots best.
JOE-PYE WEED	purple	August	6 ft.	Plant 2 ft. apart in wet places.
LARKSPUR	light blue	June-Sept.	2 ft.	Plant 10 in. apart. Rather delicate.
LEBANON STONE CRESS	pink	April	9 in.	Plant 6 in. apart. Grows in shady spots.
LILAC GERANIUM	violet	June	1 ft.	Plant 9 in. apart.
CATMINT MUSSIN	lavender-blue	May-Sept.	1 ft.	A spreading plant. Fine edging.
OLYMPIC POPPY	orange	June-Oct.	2 ft.	A spreading plant.
ORIENTAL POPPY	various	June	3 ft.	Showy flowers.
PEONY	white, pink, red	May-June	1½-4 ft.	A hardy, bushy plant.
PINK BEAUTY	scarlet	June-July	3 ft.	Plant 1 ft. apart. Long, tubular flowers.
ROSE MALLOW	pink, red, white	Aug.-Sept.	4-5 ft.	Plant 3 ft. apart in either wet or normal soil.
SHASTA DAISY	white	June-Sept.	2 ft.	Good for cutting.
YUNNAR MEADOW VINE	lilac	Aug.-Sept.	4 ft.	Plant 1½ ft. apart. Good porch plant.



Spring-flowering Bulbs

Among the important spring-flowering bulbs are a number of the tulip types, some blossoming as early as April. These early tulips include albion, couleur cardinal and pink beauty. Other spring-flowering bulbs include varieties of narcissus, grape hyacinth, snowdrop, crocus, winter aconite and iris.

Summer-flowering Bulbs

Summer-flowering bulbs require the same planting procedure as the earlier varieties. Some typical summer-flowering species include:

Autumn crocus	Gladiolus
Cluster amaryllis	Lilies
Bearded iris	Dahlia
Peonies	Summer hyacinth
Calla lily	Mariposa

Propagation of plants

Certain varieties of perennials can be used to create new plants. This is accomplished by the use of various propagation methods. The general methods used include cuttings, division of old clumps, propagation from leaves, and budding. Some varieties can be propagated by a number of methods; for others, only one way works.

Cuttings

Cutting is the process of removing a small portion of a growing plant and treating it so that roots are

developed. The cutting can then be transplanted and will, in time, produce its own blooms. Cuttings are usually made from a portion of the stem, from leaves, from tubers or from roots. Cuttings are usually rooted in a mixture of sand and peat moss. Some varieties can be induced to root in water, in sphagnum moss, or in light, sandy soil. For softwood cuttings, made from the wood stem of soft-stemmed plants, insert small pieces of stem about 2 or 3 inches long in 4-inch-deep (or deeper) flowerpots, with about one-half their length exposed. Some provision should be made for shading. The flowerpot should be inserted in another pot filled with water, so that there is a steady seepage through the porous clay. The hole at the bottom of the pot should be tightly plugged with a cork.

Practically all perennials can be propagated by cuttings. The clipping itself should be made at a sharp short diagonal, just below a node or joint. The cutting should be wrapped in damp newspaper and exposed to the air for a half hour or more. This does not apply to plants which exude a milky juice. Such cuttings should be sprinkled with water and exposed to the air for two hours.

Leaf propagation

Many perennials can be propagated by causing a leaf to root. Plants with thick fleshy leaves, like begonias and gloxinia, are particularly suited to this method of increasing their number. The leaf stem is inserted in the rooting medium and cared for as in the case of cuttings. Some plants can be propagated by placing the leaf flat on the rooting medium and weighting it down

with pebbles. A slight cut is made through the main vein of the leaf.

The use of plant hormone will materially improve the chances of propagating successfully from leaves, even in the case of plants generally considered difficult to propagate by this method. Hormones are particularly successful with holly, magnolia, rhododendron, azalea, taxus and many others.

Propagation by division

Dividing clumps is one of the simplest methods of propagation. It is, in addition, good for the old divided plants. Many perennials deteriorate if left in clumps for too long a period. Dividing them insures continuous health and growth. The plants are carefully removed from the soil, in clumps, and divided simply by pulling them apart. Care should be taken to injure the roots as little as possible. Divided plants are potted, or if the division is done early in spring, as with the hardier perennials, the new clump is planted in another section of the garden. The new planting should be well fertilized and watered.

Layering

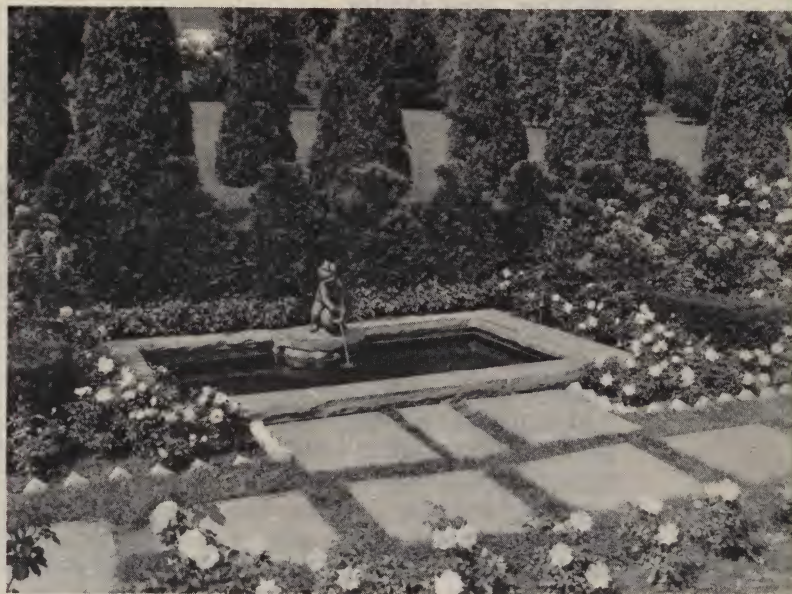
Layering is another simple method of propagation. It is adaptable only to those plants which root easily when their stems are in contact with the ground. Broad-leaved evergreens in particular (i.e., rhododendron) lend themselves well to this method.

Simple layering involves anchoring the supple stems of plants into the adjacent soil by bending them over and burying them. Black raspberries, for example, are easily propagated in this way. For plants with less supple stems, a notch is cut about 18 inches from the tip of the stem and propped open with a twig or sliver of wood. The branch is then bent to the ground, and the notched portion covered with soil. This type of layering is best done in spring or summer. Leaves should be removed from the stem which is being used for propagating.



Layering, a simple method of propagation.

Serpentine layering is used for plants with long supple stems (vines, for instance) which travel close to the ground. A number of plants may be obtained from one



Yellow and white-hybrid tea roses are lovely near pool and evergreens.

stem by covering it with earth at different points; the tip should always be left exposed, however.

Air layering is a very modern and popular method, adaptable to trees and woody plants. A portion of a straight branch or stem is cleared of bark down to the wood, and surrounded with moist sphagnum moss. The moss should be kept damp. Some manufacturers provide plant food and hormone which can be rubbed into the cut, and a plastic wrap for the moss which is also impregnated with plant food. After the notch or stripped area has rooted well, the branch is cut off and replanted.

Seed propagation

Annuals can be grown readily from seed in most cases. The method of growing depends upon the delicacy or hardness of the seed, and may require planting in frames or pots initially, transferring to the bed only when the weather is sufficiently mild and the plants well grown.

Many perennials and biennials may also be propagated from seed. This method, however, is not suited to all perennials, and some of the methods already discussed will yield more fruitful results. Typical perennials which can be propagated from seed are:

Hollyhock	Christmas rose
Columbine	Bleeding heart
Baby's breath	Foxglove
Butterfly weed	Primrose
Larkspur	

Outdoor seed sowing

Depending on the variety of seed, most annuals and perennials which can be grown by this method can be planted in seedbeds outdoors. The time for planting varies. A few can be sown in autumn, but most, however, should be sown in spring, and, to be safe, not before the last frost has passed. The big disadvantage of outdoor sowing is that one sacrifices control over the circumstances under which the seeds will germinate. In an indoor hotbed, or coldframe, conditions of moisture, heat, etc., can be regulated. Not so in the outdoors, where dryness or changing weather can destroy the weaker seeds quickly.

If an outdoor seedbed is planned, choose a spot with good soil. Then work in a portion of your compost pile, pulverizing the soil to the depth of 3 inches. Adding some sand and peat moss increases the effectiveness of the bed. Most seed may be planted on the surface, and the deepest one should plant is $\frac{1}{2}$ inch. The bed should be well-watered after the seed has been broadcast over the entire area. The bed can then be lightly tamped.

Sowing seeds indoors

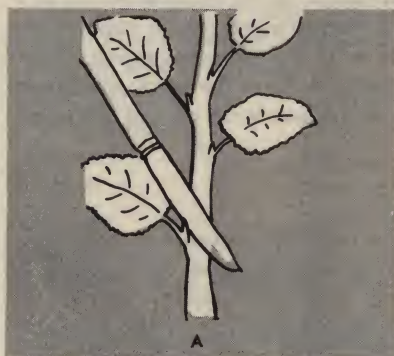
The two most important factors in indoor sowing are soil texture and drainage. Texture is of greater importance in germinating seeds than soil fertility. A mixture of equal parts of good soil, coarse sand and peat moss makes a fine bed. The bottom of the seed pan should

be filled with gravel or shards of old flowerpots. The seed should be sown as evenly as possible. As soon as the sowing has been completed, and the soil lightly tamped down, the pan or flat should be immersed in water until the surface shows dark and moist. Excess moisture is then permitted to drain off. This is far superior to overhead watering. The box should not be allowed to dry out until after the seeds have germinated. Germination will be hastened if the pan is placed in a warm, dark place. As soon as germination takes place, the seedlings should be placed in full light. Shredded sphagnum moss is the best medium for seed germination. Use of it prevents any possibility of "damping-off," which is a grave threat to all seeds.

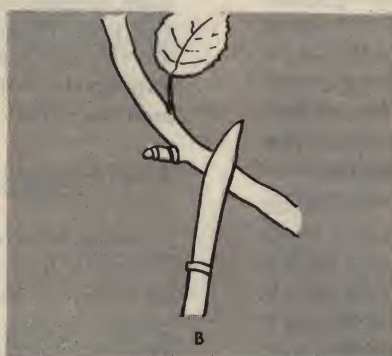
Budding

Budding is a method of grafting, best accomplished in August or the early part of September. A T-shape cut is made in the bark of the host plant. The bud is selected from the last growth of the current year, and is cut, along with the nearest leaf and part of the bark and wood, from the plant chosen. Loosen the corners of the T and slip the bud under. Use rubber bands, raffia or waxed string to wind both above and below the graft. In about two weeks, the bud should be joined to the host. The cutting is then cut back, and the bud develops as part of the host. The limb on which the graft is made should be cut back to just above the grafting point.

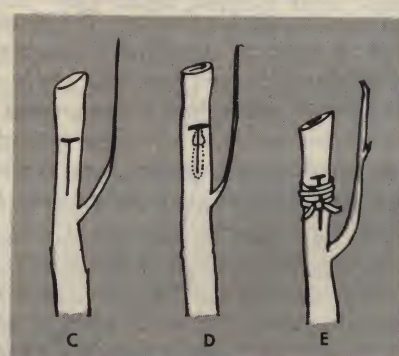
Bud grafting:



A—Remove bud with wood sliver



B—Choose place on stock plant for cut



C—Make T-cut

D—Bud is inserted in cut

E—Bud is tied with rubber strips or waxed cloth.



The Modern Way to Home Financing

THE "ASSURED HOME OWNERSHIP" Plan, which THE EQUITABLE SOCIETY has provided to over 400 thousand home owners, is a practical and economical method of home financing, designed to enable you to acquire your home and retain it despite many of the common exigencies of life. This modernized Plan provides benefits and safeguards not otherwise available to you in a conventional mortgage plan.

Generally, home financing provides protection mainly for the lenders of funds—the mortgagees. It does not take into consideration such common misfortunes as illness, unemployment or business reverses which, during the years of mortgage repayment, beset many a borrower. As a result, many unfortunate families have lost their homes during periods of emergency.

Nor do such past financing practices consider the fact that about one out of every eight family breadwinners does not live to complete his mortgage payments. In consequence, about one family out of eight inherits a home in which the breadwinner is gone, a mortgage remains and savings, if any, have often been depleted by illness and final expenses.

THE EQUITABLE SOCIETY, through long years of experience and careful study, recognized the gravity of this situation. It devised the "ASSURED HOME OWNERSHIP" Plan to provide a sound and practical method of home financing which attempts to correct these shortcomings, not at prohibitive cost but economically, within the range of the average home owner.

The "ASSURED HOME OWNERSHIP" Plan helps you own a home which you may pay for in low monthly installments like rent. At the same time, this Plan affords you some protection against many of the uncertainties and hazards of life, thus helping you and your family continue the ownership of that home.

How does the "ASSURED HOME OWNERSHIP" Plan provide these benefits and safeguards? Simply, by

1. MORTGAGE CANCELLED if you should die before completing payments, giving your family a home free of debt. In addition, an amount which can equal all of the money you have paid on the principal of your mortgage will be returned to your family; and
2. A CONSTANTLY INCREASING FUND (the Cash

Value of the insurance) against which you may borrow from the second year onward to meet the monthly installment in the event that temporary financial emergencies such as loss of job, sickness, accident, etc. threaten the ownership of your home; or which can be used to pay off the mortgage earlier than would otherwise be brought about by normal amortization.

3. VARIOUS INSURANCE OPTIONS or the withdrawal of the Cash Value are available to you when the loan has been paid off by regular amortization.

A chart on the inside of back cover shows how the "ASSURED HOME OWNERSHIP" Plan works for you. It shows how the Cash Value of your insurance increases as your mortgage balance drops. And it indicates how you may pay off the mortgage more quickly if you desire. In addition, Questions and Answers (on pages 62, 63, 64) present the features and benefits of the "ASSURED HOME OWNERSHIP" Plan.

IMPORTANT PROVISION: You may, if you wish, add to the Plan the new Family Income provision to give your widow and children a monthly income for a specified period of years.

Moreover, if you already own your home, you still may avail yourself of the benefits of this Plan by obtaining funds to improve and modernize your home, to send your children to college, to consolidate your obligations, to invest in your business, to buy home furnishings, to pay doctor and hospital bills, etc. Unlike short-term obligations which you assume to pay for home improvements, this loan runs for a long period of years at low cost. Thus, modernizing your home financing through the "ASSURED HOME OWNERSHIP" Plan permits you to modernize your home or obtain funds for other essential needs.

Whether you build, buy or modernize, the "ASSURED HOME OWNERSHIP" Plan offers essential protection and help to you. THE EQUITABLE SOCIETY, however, must be selective in granting applications under the "ASSURED HOME OWNERSHIP" Plan. For this reason, consult a representative of THE EQUITABLE SOCIETY to find out if you qualify for the "ASSURED HOME OWNERSHIP" Plan and exactly what its benefits and terms would be for you.

QUESTIONS and ANSWERS

about

The Equitable Society

"ASSURED HOME OWNERSHIP" PLAN

- 1** What is THE EQUITABLE "ASSURED HOME OWNERSHIP" Plan?

A better way of paying off a mortgage through low, monthly installments that also takes into consideration the hazards facing the borrower, such as death, and temporary adversities that threaten home ownership.

- 2** What kind of homes are eligible for EQUITABLE "ASSURED HOME OWNERSHIP" loans?

Modern one-family, owner-occupied homes in selected communities.

- 3** What is the minimum and maximum loan?

THE EQUITABLE SOCIETY will loan not less than \$2,600 nor more than \$40,000, with maximums for various localities.

- 4** What are the repayment periods for "ASSURED HOME OWNERSHIP" loans?

They vary from a minimum of 10 years to a maximum of 30 years.

- 5** Does an "ASSURED HOME OWNERSHIP" loan prevent the owner from selling?

No. There are flexible arrangements which permit a ready sale if desired.

- 6** Does THE EQUITABLE SOCIETY charge any fee or bonus to make or service these loans?

No.

- 7** What is meant by closing expenses?

When a mortgage loan is placed there are miscellaneous expenses in connection with the appraisal, survey, title search or title policy, public recording, mortgage tax, construction inspections, etc., which are paid by the borrower. THE EQUITABLE SOCIETY is able to keep some of the closing costs low by virtue of its efficient nationwide organization.

- 8** How are payments made under the "ASSURED HOME OWNERSHIP" Plan?

Payments are made in monthly installments like rent. The same amount is paid each month until the loan is repaid. This monthly payment provides for the insurance feature, interest on the loan and amortization sufficient to pay off the indebtedness in the scheduled time.

- 9** What can a borrower do if he meets with a financial emergency that threatens his ownership of his home?

After the second year he can borrow against the Cash Value of the insurance, one of several important protective features of the Plan, to help

carry his mortgage payments for a temporary period in case of a financial emergency. The amount of the Cash Value increases each year after the second year.

10 What happens if the borrower should die during the loan period?*

The unpaid balance of the mortgage is immediately cancelled, providing a home free and clear for his family. In addition, an amount which can equal all payments made on the mortgage principal up to the time of death is returned to his family in cash.

11 What is the Family Income provision?

Under the Equitable's 100 Series Policies, you may, if you wish, add to the Plan the new Family Income provision to give your widow and children a monthly income for a specified period of years.

12 Does the "ASSURED HOME OWNERSHIP Plan pay life insurance dividends to the borrower?

Yes. THE EQUITABLE SOCIETY operates on a mutual plan, paying dividends as earned, on the insurance each year beginning with the second year, so as to give the benefit of savings in cost. These dividends may be used in a number of different ways. For example, they may be taken in cash, applied toward reducing the loan principal in addition to the normal monthly reductions of principal, or they may be left with the SOCIETY to accumulate with interest.

13 Is it true that after a borrower has completed his payments under the "ASSURED HOME OWNERSHIP" Plan, not only is his home free and clear, but there is a Cash Value in the Plan that he may withdraw?*

Yes. The Cash Value available is substantial. In lieu of withdrawing the Cash Value, the borrower may continue the insurance feature of the Plan, or arrange for a monthly annuity either

immediately or at a later age for a larger amount, or take advantage of several other valuable options.

14 May a borrower pay off part or all the mortgage ahead of schedule?

Yes. He may make an advance payment up to 20% of the original amount of the loan in any year, beginning with the second year and unlimited prepayment at the end of the fifth year. Complete prepayment may be arranged in any year beginning with the second year, by payment of a stipulated charge on the sum prepaid over and above what is permitted without such charge.

15 Can the mortgage payment period be shortened without making any extra payments?

Yes, by applying the Cash Value when it is sufficient to pay off the remaining principal of the mortgage. This period may even be further shortened if dividends are applied to reduce the principal of the mortgage. The dividends may be applied to reduce the principal as the dividends are apportioned or they may be left to accumulate to such time as the amount of the accumulated dividends plus the Cash Value equals the remaining principal balance of the mortgage.

16 Why is the "ASSURED HOME OWNERSHIP" Plan so economical?

Because the interest is charged on an amortized basis, with interest payments reducing monthly. Every month a little less of the borrower's total monthly payment is allocated to interest, making it possible to credit a little more to the reduction of the principal.

17 Can construction loans be arranged through the "ASSURED HOME OWNERSHIP" Plan?

In certain sections of the country, THE EQUITABLE SOCIETY is prepared to make construction payments to the builder as construction progresses.

*Assuming that the insured has not borrowed against the cash value of the insurance.

- 18** Can a mortgage-financing commitment be arranged prior to the start of building a home?

Yes, THE EQUITABLE SOCIETY will appraise your proposed home from plans and specifications and, if satisfactory, give a letter of commitment agreeing to make a loan upon its completion, thus securing your temporary financing.

- 19** If I wish to build, buy or modernize with the aid of the "ASSURED HOME OWNERSHIP" Plan, how do I go about it?

Get in touch with your local representative of THE EQUITABLE SOCIETY or write to the Residential Mortgage Department, THE EQUITABLE LIFE ASSURANCE SOCIETY OF THE UNITED STATES, New York, N. Y.



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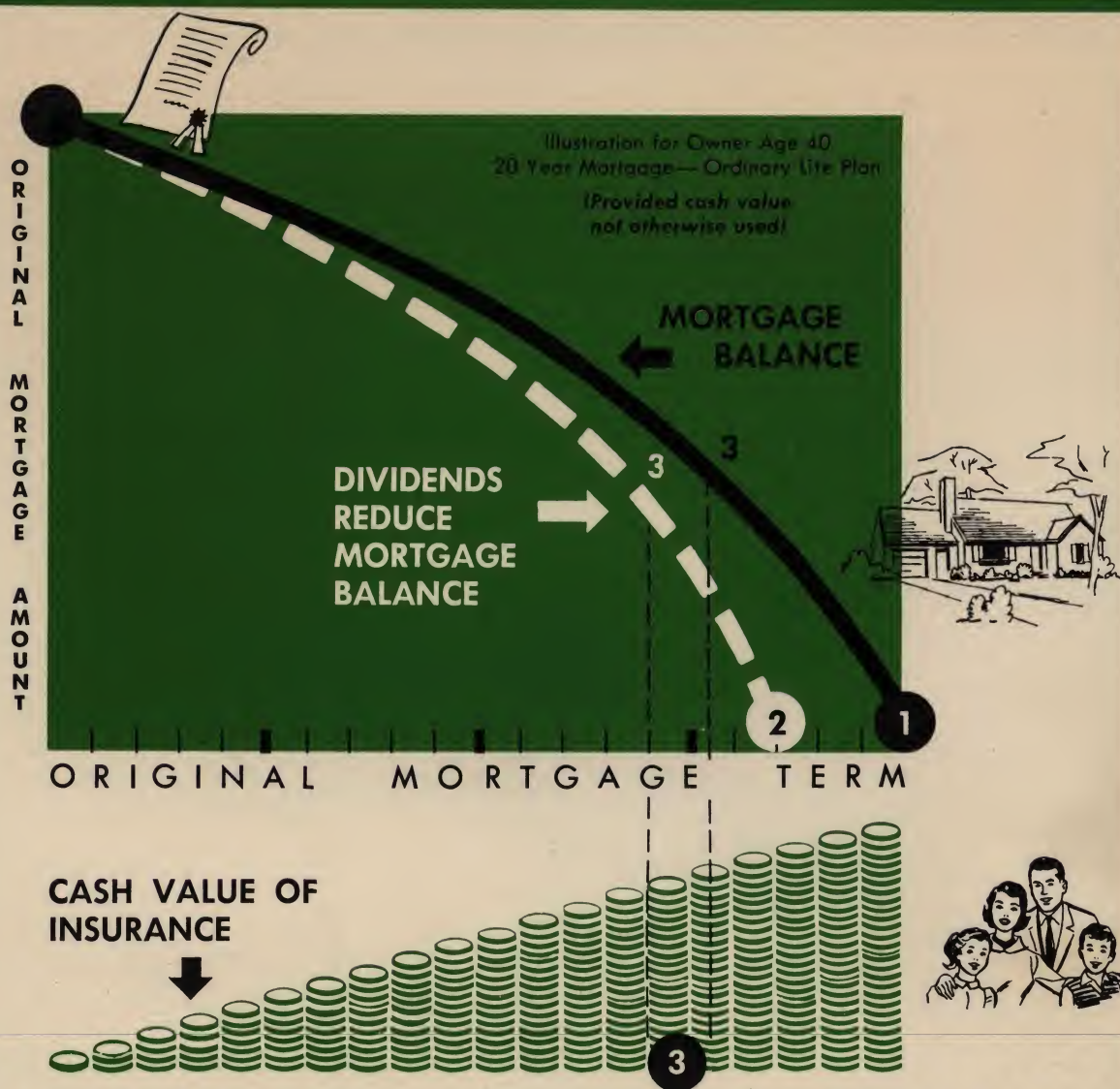
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HOW THE EQUITABLE SOCIETY "ASSURED HOME OWNERSHIP" PLAN WORKS

1. The loan is normally paid off in a definite number of years, for example, 30, 25, 20, 18 or 16 years. The cash value of the insurance policy builds up during this period and may be kept intact and the insurance continued after the loan is repaid.

2. While the loan is normally repaid in a definite number of years as illustrated by point 1, you may shorten this period by applying dividends as they are declared to reduce the loan principal in addition to the normal monthly reduction of principal resulting from the monthly payments.

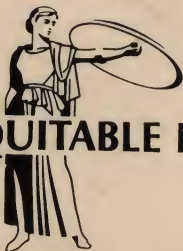
3. The loan period may be shortened still further by using the cash value to pay off the balance of the loan. While the loan principal is being reduced through the normal monthly payments and also by dividends, if desired, the cash value is building up so that there is a point prior to the end of the normal loan period when the cash value and the balance of the loan are equal. At this point the loan may be completely repaid by the cash value of the insurance policy. If this is done, the insurance coverage ceases.



assured home ownership



*The mortgage plan that protects
your ownership of your home*



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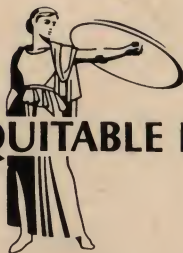
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